THE SADDLE HORSE

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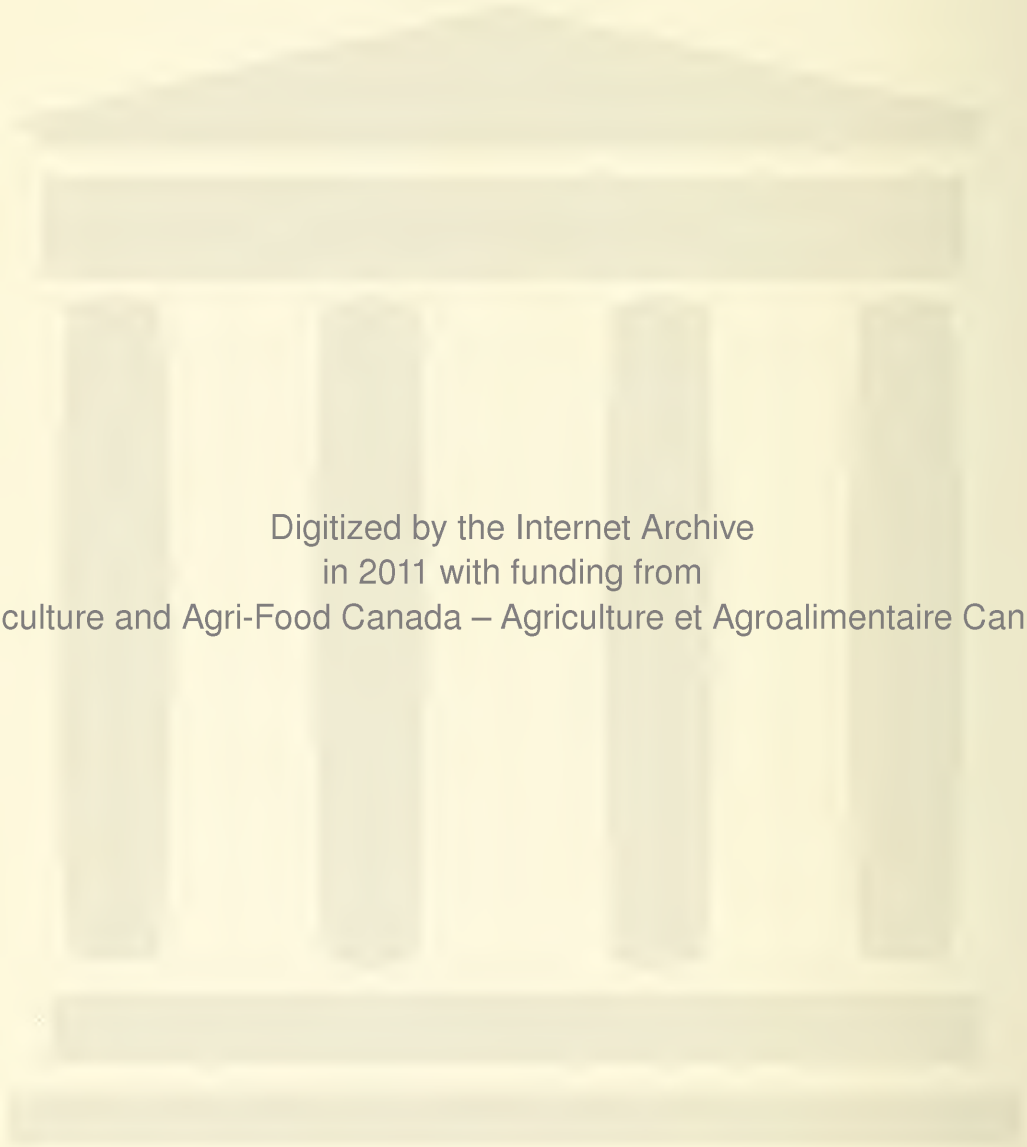

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CANADA DEPARTMENT OF AGRICULTURE
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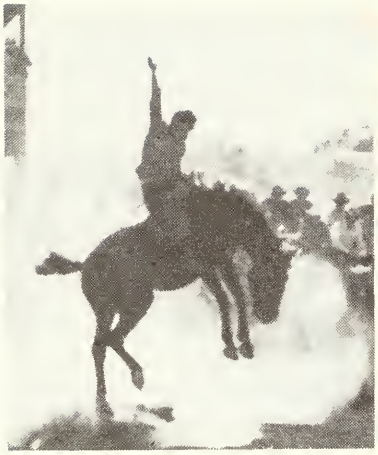
contents

This publication is for amateur horsemen who prefer the smells of the countryside to the stench of exhaust fumes; it is for all who, in fair weather or foul, can scarcely wait to mount up, on a Sunday afternoon, and seek out the hidden paths where nature is still quietly at home; it is also for the hardier ones who are ready to risk life and limb on the bumpy rodeo trail. It has been especially written for owners of one or two horses.

This publication is an English adaptation of the original French text.



THE SADDLE HORSE

history at a quick canter

The horse (sometimes referred to as a nag or even a cayuse) is quite unaware that once, in prehistoric times, he was scarcely bigger than a good-sized cat. The early ancestor of the modern horse has been given the enchanting name of ***Eohippus,*** "the dawn horse." He was small enough, then, to have been carried in our arms; now it is he who totes us around on his back.

The little fellow has prospered. As he evolved into a larger and larger animal, he passed through the stages of ***Otohippus, Mesohippus, Merchippus, Pliohippus*** and finally ***Equus.*** Somewhere along the way, in the interest of an ever swifter stride, he lost his three toes, so that now, we can refer to him as an ungulate.

The ***Equus*** that first roamed the plains and forests of North America was chased southward by cold blasts from advancing glaciers into what are now the United States and South America. Then it appears that he crossed over a prehistoric land bridge to Africa and ultimately Europe. In any event, ***Equus*** disappeared from the Western Hemisphere until the Europeans brought him back to America in the 16th century.

Over the centuries the uses to which the horse has been put have varied greatly. It was some 4,000 years ago in Assyria that he commenced his long association with man. Soon he entered upon a richly varied career — in war and the hunt, in jousting and pleasure — interrupted from time to time by the prosaic business of working a treadmill, pulling a plow or traveller's stage coach or delivering milk.

There are today, four main equine races: The Tarpan, still found in Asia, is a dull grey animal, completely wild; ***Equus Przewalski,*** an inhabitant of the Steppes, is only occasionally domesticated; ***Equus robustus,*** the big, pow-

erful European horse, was the mount that carried the mediaeval knights into battle; and, finally, most interesting of all is the Arabian, undoubtedly the ancestor, near or distant, of every true saddle horse living today.

Surely the horse will symbolize the coming age of leisure, for is it not he who takes us for our Sunday stroll to the lazy strains of a cowboy tune? From fierce warhorse to cherished companion of the weekly outing in a mere 4,000 years in progress indeed, although we do not always seem to appreciate the change. Some people, sad to relate, treat their horses as badly as their fellowmen.

The Roman Emperor Caligula thought so highly of his horse Incitatus, "the Swift One," that he built him a marble stable with an ivory feed trough. He dressed him in blankets of royal purple and halters studded with jewels, and even wanted to make him a Consul. We think perhaps he went a little too far.

The best work ever published on the horse, the experts tell us, was written by Xenophon, born in 445 B.C., a gentleman farmer of ancient Athens who was at the same time a captain of cavalry and a consummate horseman. Xenophon not only wrote the first treatise *(The Hippike)* on rearing and handling horses, but was also the first to advocate gentleness and understanding in their training. Before that the brutal approach had been mandatory. The principles he laid down then are still the basis of all good horsemanship and equine care.

acquiring a horse

Acquiring a horse, like getting married, entails a number of responsibilities, in addition to the pleasures it affords. The new owner must not only provide his mount with food and shelter, but also a place to exercise, assiduous grooming, a meticulously clean stable and proper shoes, not to mention a full medicine chest along with a veterinarian's eye for the first symptoms of disorder. Most important, he must provide an atmosphere of security and affection.

The life and well-being of your horse depend on you alone. The better you care for him, the better he will respond. This does ***not*** mean treating him as though he were human. This animal that you are keeping (in custody) for your private pleasure needs many different substitutes for the things that nature would otherwise provide. Day-in, day-out, in good weather and bad, you

have to feed him, clean his stall, groom his coat, and manicure his hoofs. At the same time, you have to keep an eye out for the slightest signs of indisposition.

Once you own a horse, you can forget about visiting friends on an afternoon and even staying for dinner. Remember, your stable charges have to be fed on schedule. Should you be going off for a weekend's skiing, don't forget to arrange for a reliable horse sitter — one who won't fail you when the winter winds blow too chill or too strong, and who won't let the water freeze in the pails or forget to bolt the stall gates and the stable doors behind him.

his home

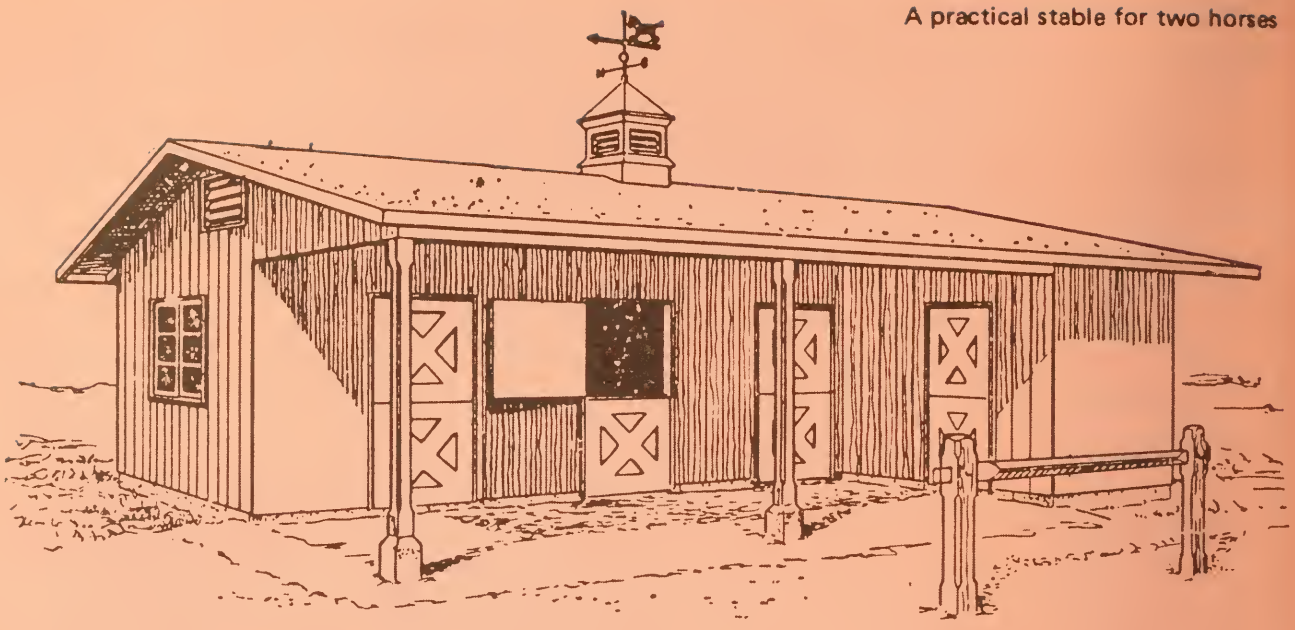
There are two basic types of stable design from which various intermediate combinations can be selected. A more elaborate stable can be built so that there is controlled temperature and ventilation, a generous stall (about 14 × 14 feet), and sometimes an indoor ring. In fact, a horse thus stabled should never be taken out in winter unless he is well protected against the cold. Although such a stable is elaborate, and occupies a comparatively small amount of land, it is very expensive and seldom built in Canada.

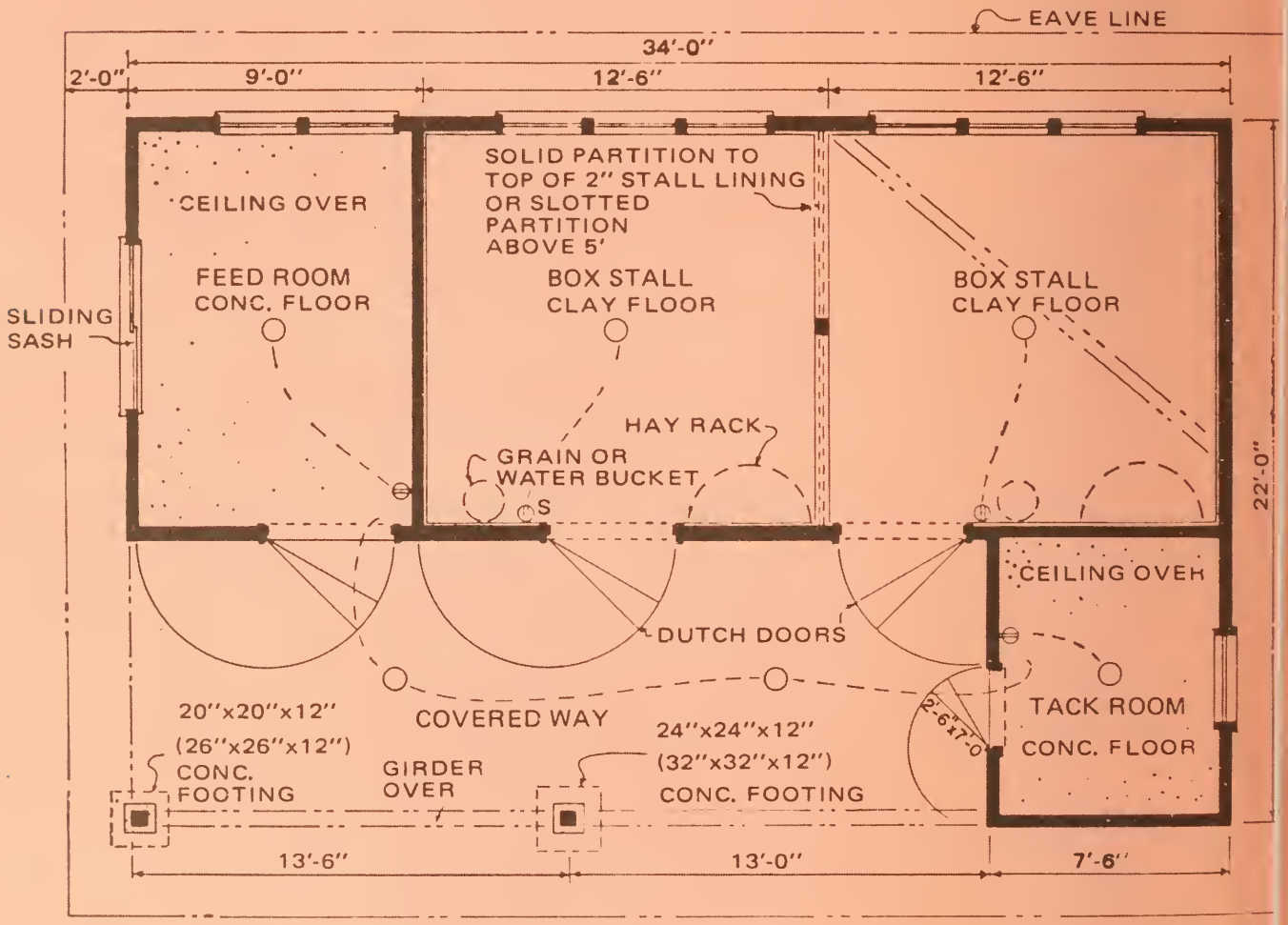
With the other type of stable, the horse stays outside all year, except during very cold or bad weather when he seeks the shelter of his barn. Although the stable is a rudimentary structure in itself, the animal requires at least a quarter of an acre for outdoor exercise.

Since the aim is to recreate, as far as possible, the living conditions of wild horses, who seek shelter during bad weather in thickets of evergreens, this will suit your horse. As far as you are concerned, the stable is the place where you feed, saddle and groom him. It is important to note that a horse that stays out all winter must never be clipped and should not be brushed during this season. His body hair is covered with a wax that protects him against cold, snow and rain, and brushing will remove it. However, his mane and tail may be brushed.

The stable should have a floor area of at least 60 square feet per horse, and a door facing south that is usually left open for maximum sun penetration to fully benefit from the disinfecting qualities of ultraviolet rays. The walls should be windproof, since a horse can be just as suscep-

A practical stable for two horses





Plan USDA 5833

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

tible to drafts as a human being, especially at feeding time. This is because the digestive processes draw a lot of blood at the expense of surface circulation, and this is when the animal is most likely to catch cold. The building should be equipped with mangers and drinking-water facilities. There is little need for bedding in this kind of stable.

A slight variation of this rudimentary structure is the box or open stall. In this stable, the horse is locked up at night and is turned loose in the daytime unless the weather is very severe. The minimum dimensions of a box are 10 × 10 feet. If you have several horses, the building can be laid out so that all the boxes open into a corral. It is useful to have an alleyway running along the front of the boxes and, if construction costs are an important factor, this can be an exterior walkway protected by a generous overhang. Since bedding is needed only at night, a small amount will suffice.

A more elaborate type of stable has box stalls with an interior alleyway. The animals remain indoors all winter except for a few minutes each day when they are taken out to stretch their legs while their stalls are being cleaned.

This stable must have good ventilation and an abundance of natural light. It must be well insulated against the wind and cold to provide protection against sudden drops of temperature. These can be fatal to an indoor animal for whom mother nature has been unable to fashion a shaggy winter coat.

The temperature in this type of stable should be kept fairly high, that is, above freezing at all times. However, it is a mistake to confine the horses too closely together with the idea of conserving heat. In fact, the risks of illness increase in proportion to the number of animals per unit area. Moreover, indiscriminate mingling of horses of different character may lead to irritability, fighting and injury, not only to the horses themselves, but to their owners and attendants as well.

Stable Floor — If for no other reason than peace of mind, you will want to keep your mount healthy, and good health starts at the hoofs. To maintain sound hoofs, your first concern will be to choose a site for the stable, one higher than the surrounding terrain, if possible, for good drainage. In any case, gravel should be added to raise it another foot or so.

Another consideration for good drainage is the floor

profile. The use of different levels facilitates maintenance and thus helps keep your animals healthy. If the horse's bed is given a slope of 3°, the urine will drain off freely and his hoofs will be dry. This is of the utmost importance because most equine ailments are centered in the bottom of the hoofs. Moreover, with such an arrangement, less litter is needed. There should also be a gutter to catch excreta.

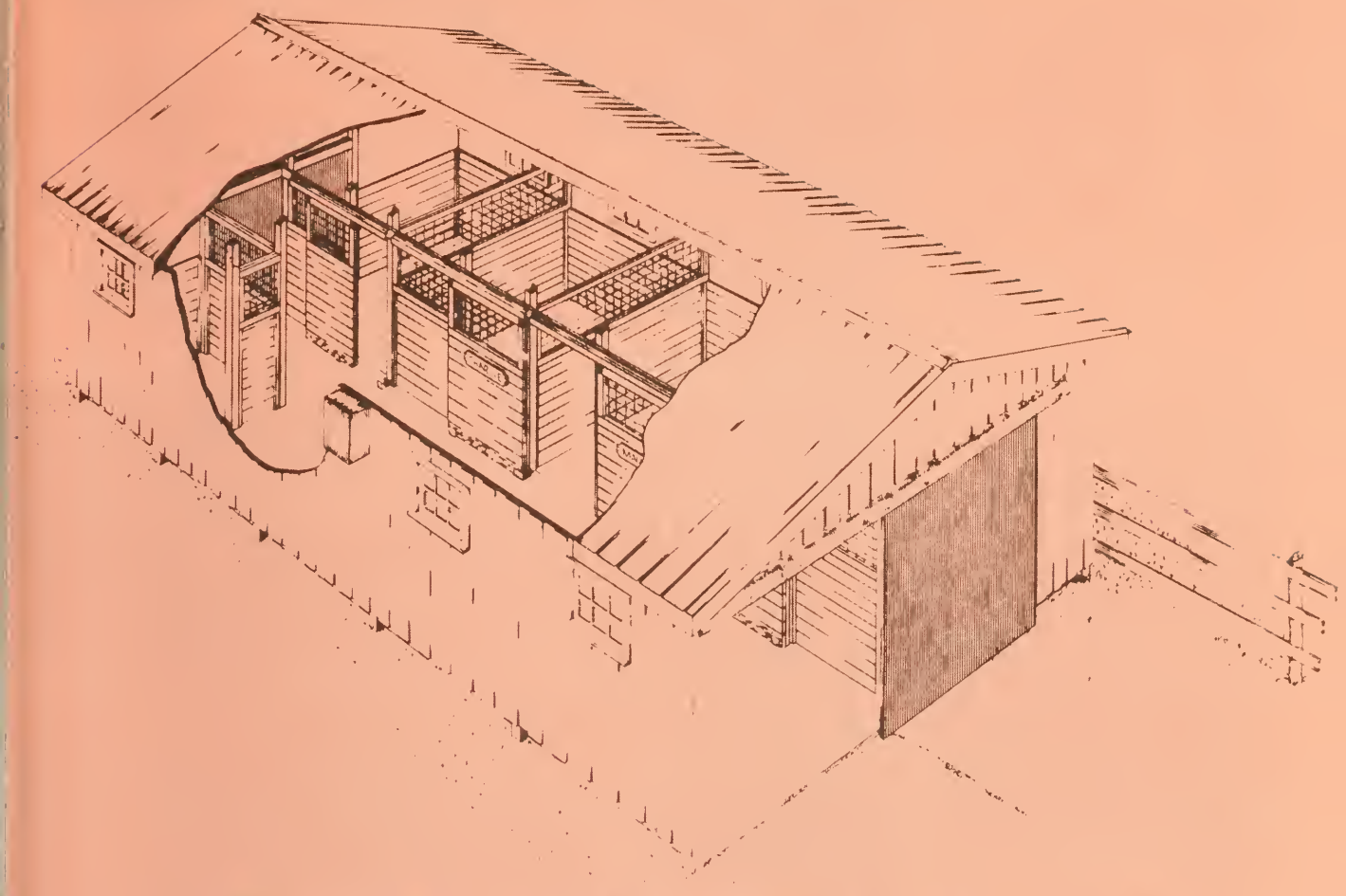
Since horses always seem to answer nature's call wherever it will make the most work for you, it pays to have a stable floor that is easy to clean and maintain. Clay, river sand, wood and concrete are some of the materials used for the surface, but asphalt is probably better than any of these, especially if it has a high tar content.

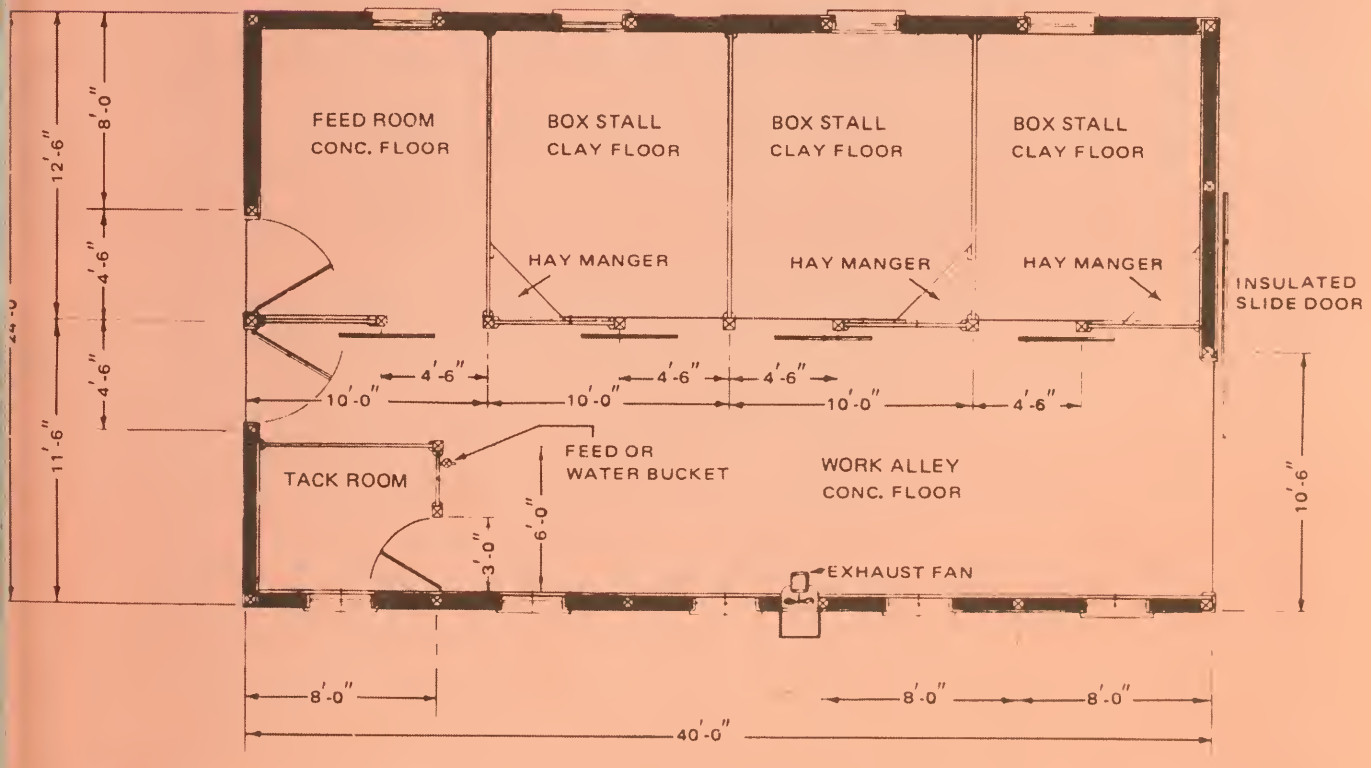
Clay over gravel on a well-drained soil works well in an outdoor shelter, but is difficult to disinfect and requires a lot of litter. Similarly, river sand makes a good floor and is fairly easy to maintain, except in winter when freezing affects drainage. Wooden floors are easy to sweep and scrub, but like clay can be hard to disinfect. When the animals are kept in stable, the floor will give off a strong odor of ammonia that is as bothersome to the horses as it is to you. However, if you must use wood, be sure it is elm because it resists splitting more than other varieties. Concrete is easily cleaned, but it is cold and hard on the horses' feet and requires a great deal of litter. Moreover, water and urine are likely to freeze on the concrete surface, causing slippery spots. It is possible to insulate the soil beneath the slab but this adds to the already high cost. Asphalt is easy to clean, softer underfoot than concrete and considerably cheaper. In fact, you can order the material directly from your fuel-oil dealer and lay it yourself. It should also be mentioned that high-quality rubber floor coverings are available for stables but are expensive.

To sum up, the prime requirements of a stable floor are: good drainage, a surface that is easy to clean, with abundant litter if the floor is hard, less if it is not so hard.

Construction — A rugged simple structure will suffice, provided it is placed properly (door to south). As mentioned earlier, you will need at least 60 square feet per horse, so that they can move about comfortably. For one horse, an obvious choice would be 8 × 8 feet, since plywood sheets are 8 feet long, but this may seem a bit cramped. Why not build a stable for two horses? Chances are that before long someone else in the family will be clamoring for a mount of their own. If not, you can doubt-

A practical stable for three horses





Plan 8201 Canadian Farm Building Plan Service (available from your provincial department of agriculture)

less find a neighbor who may be willing to share the project.

If you have plenty of land, a one-storey stable will be sufficient. On the other hand, if you want to conserve land, simply add a second storey to accommodate the tack room, feed bins and hayloft. This will involve some hoisting problems and necessitate stronger joists.

Some horses resist being bridled and jerk their heads up violently at the mere sight of a bit. This fact dictates the

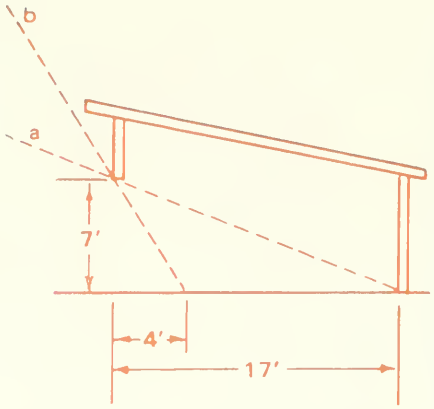
minimum height of the ceiling because a horse with a badly bruised skull (poll evil) can be dangerous. For example, a head strap rubbing against the tender spot can make him nervous and irritable; also, a horse can suffer concussion like a person, with similar unpredictable results. Therefore, the minimum ceiling height should be at least 7 feet and be increased proportionately for larger animals. Similarly, to prevent injury, any windowpanes the horse might put his head through should be fitted on the inside with iron bars spaced not more than 4 inches apart.

If you have chosen a type of stable in which the horse is to be kept only at night or in bad weather, good ventilation is especially important. Otherwise, in winter, the contrast between the interior warmth generated by the animals and the low temperature outdoors may be too great. The stable should be built so that if there is a sudden drop in the outside temperature at night the interior temperature will follow it gradually. Obviously, there must be no drafts. The walls must be carefully constructed, using a wind baffle, and some form of insulation should be provided to retard conduction (see CDA publication 1404, ***Ventilation of Livestock Buildings***). Similarly, the doors must be fitted with strong latching hardware that even the most violent winds cannot dislodge.

Wind protection is another point to consider. A small stable for only one or two horses will not provide much shelter for your pets when they are outside. A windbreak adjoining the stable can be very helpful. It should be 5 to 6 feet high with a ground clearance of about 1 foot and boards about 1 inch apart. (For further information on wind protection, see CDA publication 1461, ***Snow and Wind Control for Farmstead and Feedlot.***)

Stabled horses are subject to boredom. So far, the only amusement they have been able to devise for themselves is the beaver game, or the systematic gnawing away of every part of the building they can reach with their teeth. They also gnaw wood if there is a mineral deficiency in their diet. There are several possible ways of foiling these efforts. One is to coat everything liberally with creosote or other wood preservative. Another is to cover the sharp edges with strips of metal; for example, the angle-iron parts of old iron bedsteads make excellent protective moldings (any metal used should be coated with nontoxic paint).

Since boredom is one of the most common winter afflictions of horses, the idea of putting a radio receiver in the



angle of sun in winter (a) and summer (b)

stable is not as silly as it might seem. Above all, be sure to place the radio and any wires well out of reach of mischievous teeth.

If you have several mounts in 4 × 8-foot stalls, the use of open-work partitions helps reduce boredom, since the horses can see each other. Open partitions also improve ventilation and save lumber. Actually, a simple plank secured at each end will suffice, providing neighboring horses are compatible.

Tack Room — A generously proportioned tack (harness) room will come in handy. If you wish to keep your saddles in good condition, they should not be left on the floor where they will warp and where rodents will find them appetizing. An empty nail keg makes an excellent saddle support and the interior is useful for storing things. The side of the keg should be covered with felt, sponge rubber, sheepskin or the like, to protect the saddle from splinters and rough spots. A lid with padlock would also be in order, especially if the keg contains hazardous substances.

Saddle stands need to be 3 to 4 feet above ground. If nail kegs are unavailable, satisfactory stands can be made from scrap lumber. An excellent model is shown in the *Light Horse Manual* (unit 3, page 5) of the Extension Division, University of Saskatchewan, Saskatoon, Sask.

A 1-pound tobacco tin has about the same radius of curvature as the nape of a horse's head (poll). Nailed to the wall of the tack room, it becomes the perfect place to hang the bridle. The interior of the tin could hold important small items, for example, a hoof-pick.

Feed Storage — Horses, like children find it difficult to occupy themselves all day long. Figuratively speaking, therefore, they will be 'into the cookie jar' at the slightest opportunity. This means that you have to provide a secure grain feed locker well beyond your horse's reach; otherwise, you stand a good chance of losing both feed and horse, one by larceny and the other by indigestion. Make sure, too, that no electric wires are within reach of your steed.

If you feed your horse hay and oats, there must be adequate storage space for hay. On the average, a horse consumes 15 pounds of hay per day. In 7 months, therefore, he will eat a ton and a half, or 67 bales. Each bale of hay weighs about 45 pounds, measures 40 × 20 × 15 inches and occupies up to 7 cubic feet. Hence, your hayloft must have a capacity of about 470 cubic feet per horse. This is

equivalent to a space 10 × 8 × 6 feet or 12 × 7 × 6 feet. You will not require as much storage space if your horse is fed prepared feeds. (Refer to section on feeding.) These feeds are available commercially and can be delivered to you at regular intervals.

If you have a one-storey stable and are storing the hay at ground level, there should be a ventilated false floor beneath it to prevent wet rot due to ground humidity.

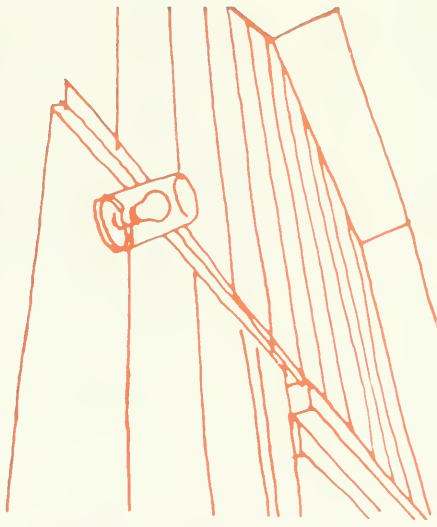
Hay can, of course, be stored outdoors, in which case it has to be raised above the ground on a latticework floor and roofed in to keep off the rain, snow and direct sunlight. The practice of stacking hay on the ground and covering it with a plastic tarpaulin cannot be too strongly condemned. The plastic traps ground moisture, at the same time producing a greenhouse effect that literally cooks the hay. Hay should always be well ventilated and well shaded.

A haystack is a favorite nesting place for rodents. A good dose of rat poison, distributed among several strategically placed weeping tiles or small sections of pipe, will readily attract them. You would be well advised to have these traps ready and baited before the hay arrives, because after you have handled 4 or 5 tons of it such a detail is easily forgotten.

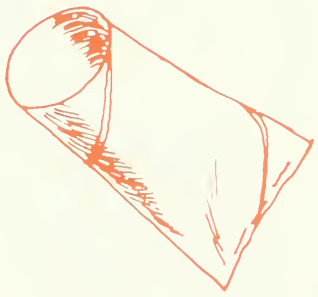
Feeding Facilities — Each animal must have its own manger and its own bowl for concentrates. The indispensable drinking trough completes his feeding equipment.

The manger must be big enough for a ration of hay and should be placed at floor level. A horse whose manger is too high may have trouble in spring when he is put out to pasture, because his neck muscles will be in poor condition for stretching downward to the grass. The manger may be covered with an iron grill with bars spaced 11 inches apart, to keep the hay from being scattered in all directions. The oat ration can be served in a bucket set into a hole in a plank. If the manger is well constructed and has no opening at the bottom, the oats can simply be put in with the hay.

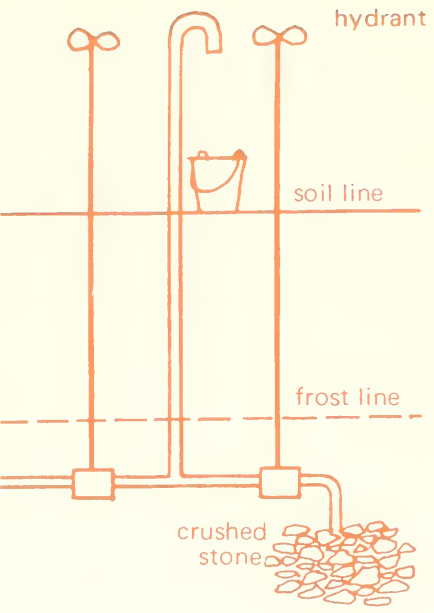
If your horse has to be tied up in the stable, the rope (preferably a cotton one) should be long enough so that when he is getting food from the bottom of the manger it is still just comfortably slack. The other end, therefore, must be attached to the wall at the height of his head when he straightens up. Thus, he will not be able to get his legs tangled in the rope.



A screw top jar makes a cheap weather tight light fitting



the core of toilet paper may be used as a poison container



The watering question calls for very careful consideration. Water must either be brought to the stable in pails or be piped in. Horses consume a great deal of water and pails can get very heavy and awkward, especially in winter on an icy pathway. If you decide to have the water piped in, then the pipe must be laid well below the frost line and, preferably, terminate in a hydrant at the stable end. In this arrangement there is a tap for opening the line and a drain valve, both below the frost line, so that the pipe bringing the water up into the stable remains empty when not in use. Otherwise, it would freeze up regularly and cause no end of trouble. Although heating elements can be installed on the intake pipe and drinking trough and eliminate the necessity of a hydrant, they consume electricity and entail some risk, however slight, of electrocution and fire. Moreover, freezing is still possible if there is a general power failure.

Paddock — The best fence is built of 2 × 8-inch lumber nailed inside the paddock to posts not more than 8 feet apart. The fence should be creosoted, not only to preserve the wood but also to prevent the animals from chewing on it. Barbed-wire and electric fences are not recommended, but wire-mesh fences of the kind used for hogs are acceptable. There should be a ground clearance of about 1 foot. This will allow you to make a fast getaway (by rolling under the fence if one of your gentle pets decides to make a scene).

A word of advice in passing: spread some manure on the grass outside the paddock. This will prevent the horse from breaking the fence, trying to reach the grass on the other side.

Stable Yard — Leave nothing lying around that might injure the horse. Keep a sharp lookout for bent nails; when rusted, they can cause a nasty hoof wound that could lead your steed to the glue factory.

diet

Your horse is not a gourmet, but he does require a balanced diet containing a variety of food components normally found in nature. He knows by instinct where to look for these items, although sometimes a region may be lacking in some of the essentials. In any event, to feed him you don't have to start up the barbecue pit!

Like every other warm-blooded animal, a horse needs energy foods, which provide heat for comfort, fuel to keep

the body functioning and energy for walking, trotting or galloping. At the same time, he must have the food elements necessary for building and repairing cells of the muscles, bones and body organs which are constantly changing.

Although carbohydrates and fats (for heat and energy) and proteins (for building) make up the bulk of the horse's rations, vitamins are also necessary for his well-being. Only minute quantities are needed, but each of these 'vital amines' has a special function in the horse's diet. Vitamin A, for example, ensures good eyesight and healthy respiratory and digestive systems. Vitamin B assures the overall strength of the animal, normal development of bones and a good balance of minerals in the blood.

Thus, your cherished steed needs all sorts of things in his diet. However, since diet is a long and complicated study and you have no need to understand all its ramifications, we suggest that you merely follow current practices. Feed your horse hay in winter, grass in summer and grains all year round. Finally, see that he gets all the water he needs — preferably, about 10 gallons every 24 hours.

Water is not usually considered a food, but this makes it no less essential. Water makes up the greater part of the blood, which moves the nutritive elements to wherever they are needed, and at the same time water carries away the organic wastes. It also serves to stabilize the body temperature. In a sense, a horse is just a big leather bottle. Did you know that water constitutes almost 50% of him?

Digestion — If you understand the digestive system of your horse, you will have gone a long way towards establishing a proper feeding regime.

Digestion breaks down food into elements the body can assimilate and eliminates wastes at the end of the line. It is a combination of mechanical, chemical and microbiological processes. It begins, as everyone knows, with chewing. What is not so well understood perhaps is that, in the course of chewing, the food gets mixed with saliva, which is 99% water and 1% proteins. Hay absorbs about four times its own weight in saliva, and oats about their own equivalent by weight.

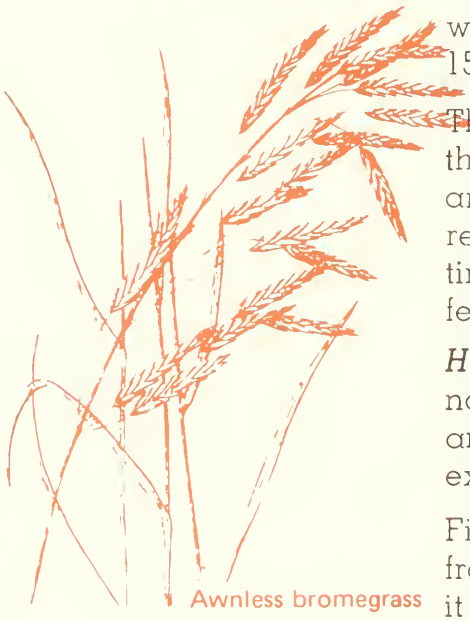
Although a horse eats about the same feed as ruminants, he does not have a similar multiple-stage digestive system and must chew his food longer before swallowing.

Hare's ear mustard

It takes him 15 to 20 minutes to eat a pound of hay and 5 to 10 minutes for a pound of grain. At the same time, he drinks at least 5 pounds of water if available.

From the mouth, the food travels to the cardia, an extremely important organ which controls the amount of food entering the stomach. Since a horse's stomach is comparatively small and can only accommodate a little food at any one time, it is preferable to feed him two, three or even four times a day. Some horses eat greedily and choke; to correct this, put one or two round stones, about the size of a tennis ball, in the oat bowl — and watch them slow down.

A horse's stomach is delicate. Since it is small, the filling and evacuation cycle is necessarily slow, and any disturbance brings difficulties. The stomach is particularly susceptible to abrupt changes of food and can also become unsettled by over-eating of grain or drinking too much water. Any change in diet should be spread over at least 15 days. Regularity of feeding times is also essential.



Awnless bromegrass

The stomach is followed by a system of tubes (intestines), through which digested food is assimilated and wastes are carried to the end of the line. The system ends in a rectum about a foot long which functions five to a dozen times a day, ridding the animal of several pounds of fecal matter.

Hay — Feeding a horse is easy but care must be taken not to feed him improperly. All feed must be wholesome and of good quality. But how can you tell if the hay, for example, is up to standard?

First, it must not be dusty. Pick up a bale and let it drop from a height of 3 feet. If you are blinded by the dust and it makes you cough, the hay is not good. Nothing is more dangerous to a horse than dusty hay. Among other things, it causes respiratory ailments. However, if by some unfortunate set of circumstances you have nothing else to feed him, dampen it as carefully as you can before feeding.

Alfalfa

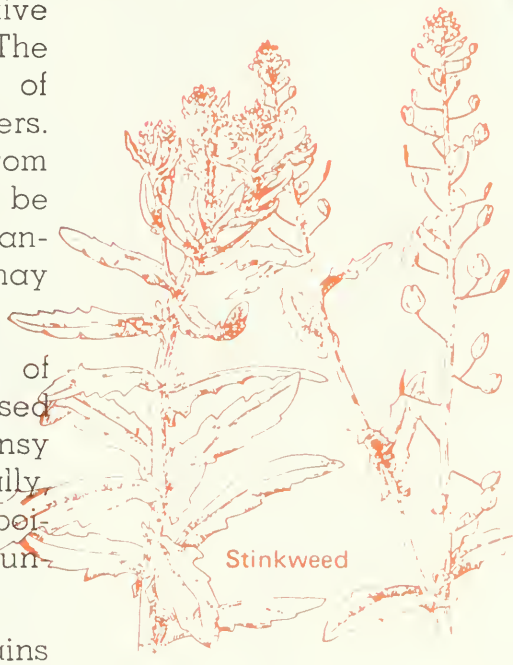
Second, hay should be as green and leafy as possible and should have a pleasant odor. It may consist mainly of timothy (or millet), with a small amount of non-spiny bromegrass and alfalfa. Brownish, hard hay with whitish stains of rot is dangerous.

Finally, hay must not contain too many weeds. Some weeds are very dangerous, especially in large quantities. One of the worst is horsetail (not to be confused with

foxtail, a weed harmless to horses), which is as toxic dry as when green. Wild barley is also hazardous to horses because spikelets can get into the skin and eyes causing sores and sometimes blindness. Other bad ones are the common fleabane, which makes horses sneeze, and cow cockle and hare's-ear mustard, both of which have poisonous seeds. Stinkweed seeds also can be dangerous if eaten in large quantities.


Timothy

Hay that is contaminated with weeds has less chance of being dangerous if it is cut before the seeds have formed. In any case, the earlier the hay is cut the more nutritive it will be, although obviously there will be less of it. The most favorable time for cutting from the standpoint of both yield and quality is just before the grass flowers. It will be to your advantage, therefore, to get hay from the very first cutting. Timothy and other grasses can be affected by a mold known as ergot, which is very dangerous to horses.If you see some ergot or horsetail in a hay field, get your hay somewhere else.


Stinkweed

Some weeds found in pastures are poisonous. One of these is cowbane, related to the hemlock the ancients used to settle their political arguments. Stinking Willie, or tansy ragwort, is dangerous to horses but is rather rare. Finally, common St. John's-wort contains a substance that is poisonous to white horses if they are exposed to strong sunlight after eating it.

Grains — The only way to be sure of getting good grains (also called concentrates) is to buy them from a reputable dealer.

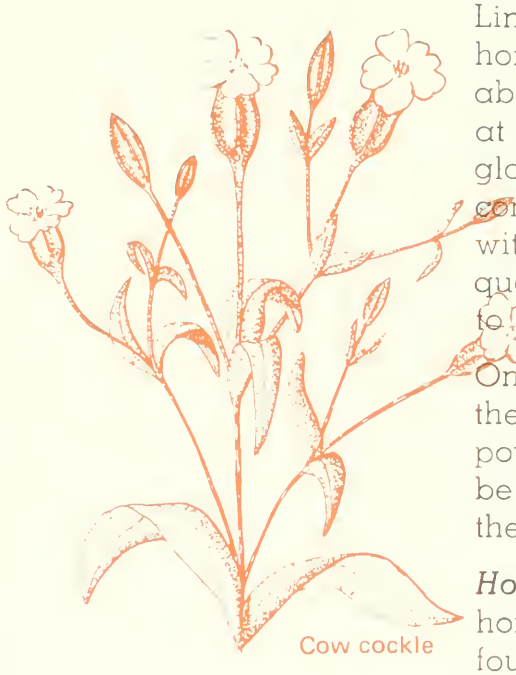
Oats are probably the best grain for the horse, because they tend to dissolve into an easily digestible porridge. Oats must be supplemented, however, by certain minerals. Crushed oats are best because they are the most easily assimilated by the animal.


Wild barley
(squirrel tail)

Crushed barley is a good energy food. It can be fed in very cold weather, but care should be taken not to give too much. Horses that get too much barley show a tendency to shed their winter hair prematurely. Also, barley has a tendency to form a hard ball in the stomach and may be hard to digest.

Cobs of corn are perhaps better than barley as an energy food. The horse has to do a lot of chewing on the cobs. This slows down his ingestion of food and keeps him from stuffing himself. At the same time, it keeps him occupied and out of mischief (saves lumber in the stable, too!).

Diet Supplements — Supplements are additives intended to balance the diet. However, they must not be given without first having the hay and grain analyzed. Otherwise, the only result may be to aggravate a deficiency that is already present. Your local agronomist can tell you where to get your feed analyzed and what supplements to feed. Do not forget to specify the horse's weight and type (saddle horse, work horse, etc.), whether he has a salt block available, what his color is and whether he is stabled day and night, at night only, or is let out to pasture.



Cow cockle

Linseed meal is an excellent protein supplement for horses. It is also a laxative and a tonic. Used in reasonable quantities (a pound a day for a 1,000-pound horse) at the start of the summer, it will give your horse a bright, glossy coat for the show ring. Linseed meal should be combined with corn, oats or hay. Do not start abruptly with a full pound. In fact, always begin with small quantities of supplements and increase them gradually to the full daily ration.

One supplement that can be given without hesitation is the salt block, which some horses devour avidly. Also, powdered minerals, brown or black and very heavy, can be left in a bowl in the stable where the animals can eat them at their leisure.

How Much to Feed — The amount of feed you give your horse is governed by his weight. Since it is hard to get his four feet all at one time on the bathroom scale, we recommend that you acquire a height-weight tape. Saddle horses all have more or less the same proportions, and it has been observed that the chest girth gives a fairly accurate measure of the horse's weight. Tapes that have been graduated accordingly can be bought at most feed stores.

Canada fleabane (horseweed)

Most of the information obtainable in Canada on the feeding of horses applies specifically to draught horses. In such literature the feeding is compared to that of milk cows. However the latter require certain supplements of milk and beef cattle, of course, require a different set of supplements for the production of meat.

Saddle horses must be fed much more lightly than either cattle or draft horses. The Arabs have a saying: the two worst enemies of the saddle horse are idleness and fat.

A 1,000 pound horse needs 10 to 12 pounds of hay and 6 to 10 pounds of grain a day. When he is idle, the hay

ration should be increased to 12 to 15 pounds, and the grain reduced to 4 to 8 pounds. The following table may serve as a guide:

Weight of horse	Ration for idle horse		Ration for working horse	
	hay	grain	hay	grain
	pounds			
600	7.2— 9.0	2.4—4.8	6— 7.2	3.6— 6
700	8.4—10.5	2.8—5.6	7— 8.4	4.2— 7
800	9.6—12.0	3.2—6.4	8— 9.6	4.8— 8
900	10.8—13.5	3.6—7.2	9—10.8	5.4— 9
1,000	12.0—15.0	4.0—8.0	10—12.0	6.0—10
1,100	13.2—16.5	4.4—8.8	11—13.2	6.6—11
1,200	14.4—18.0	4.8—9.6	12—14.4	7.2—12

In addition, give your horse plenty of water (at least 5 gallons a day), salt in block form or mixed with the grain, and have minerals available to the horse at all times in a bowl.

Obviously, you will not want to weigh out the grain ration at every feeding. Do it once for the whole day, dividing this quantity into three or four equal portions. It is useful to have a tin of some kind that will hold a third or a quarter of the ration; for example, a 1-pound cigarette tobacco tin will hold 10 ounces of grain. As soon as your horse sees this tin he will get excited.

Field horsetail

It is possible to buy feeds fully prepared for horses. Some of these are balanced concentrate mixtures that replace the grains of the above table; others are intended to replace the entire ration, including hay. After a visit to your local dealer you should know exactly what to feed your horse. The ration will have been mixed, balanced and designed to make everything easy for you. Obviously you are going to have to pay extra for this service, but at the same time you will avoid certain maintenance and storage difficulties.

A summer pasture for the horse is most desirable, for green grass contains all sorts of things essential to his good health. How large a field is needed? Consider first of all that the horse has four hoofs and the clumps of grass that he tramples are going to be left there several days until they straighten up again. Also, he drops his dung whenever and wherever nature dictates and, fastidious creature that he is, won't eat the grass, on which it has fallen, for several years.

Let the horse out to pasture at every opportunity. Horses and cows can be pastured together, though it is not the best of arrangements.

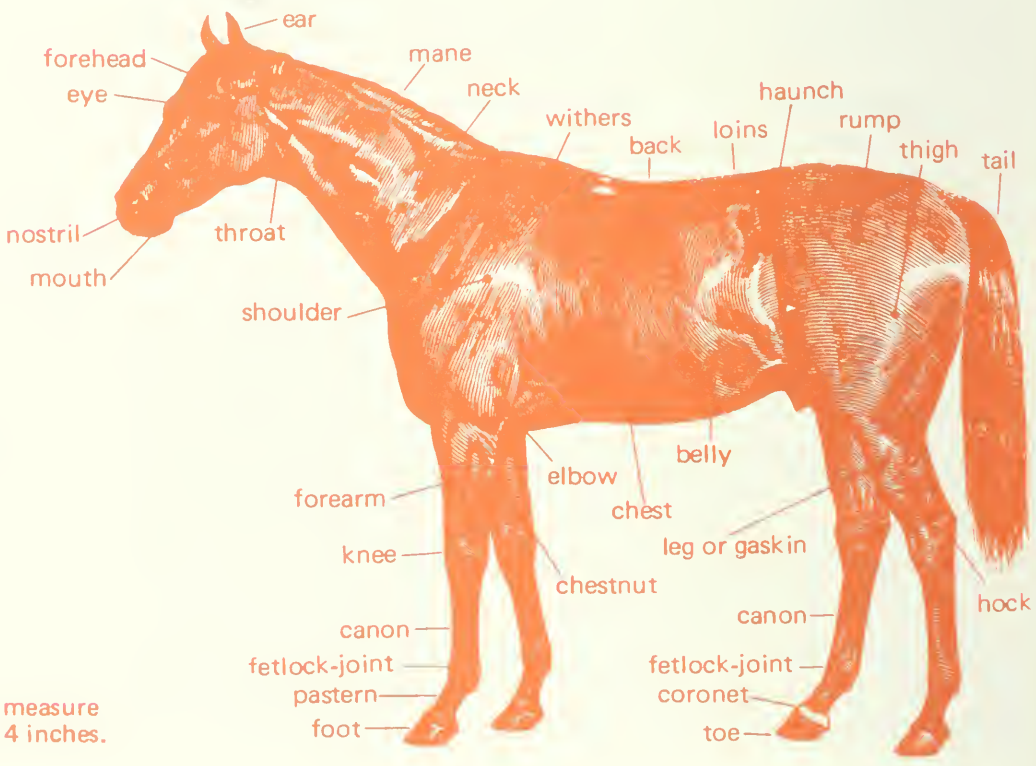
Ergot on quack grass, rye and timothy

You should try, as far as possible, to reconstruct the conditions of a natural life for your horse. The wild horse finds his hay already sun-dried beneath the snow, which he scrapes away with his hoof. He gets grains in the same way, and to compensate for a number of deficiencies he also chews the bark from trees. He is quite fond of white poplar bark. Many old timers will tell you that you ought to give your horse five or six poplar logs in the course of the winter, to keep him from getting worms and to supply all sorts of nourishment that he needs. In any case, while he is gnawing on a poplar log, he will not be trying to chew up his manger. Cut the logs only as needed, as horses do not care much for stale or dried-out poplar.

what to look for in a horse

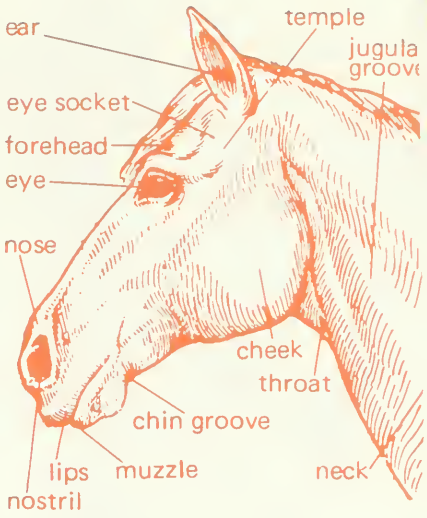
To the uninitiated, all horses look alike. But, as anyone who really knows horses can tell you, there is an almost infinite variety of specific features and temperaments among them. If you have a picture of the ideal horse firmly in your mind, any defect will become evident at a glance. Certain of these defects, however unobtrusive, may eventually have serious consequences. Therefore, before devoting your life to a horse, you should know

Cabalus Perissodactyl, an ungulate of the equine family, usually called a horse.



The 'hand' is a horse measure equivalent to 4 inches.

something about horses generally. A description of important characteristics follows.



Parts of the Horse — The ***pastern*** does for a horse what the shock absorber does for a car. If the hoof is well shaped, the pastern is on the same slope as the wall. The most common angle of inclination is 45° (greater on the hind legs). Cracks sometimes develop in the fold of the pastern when the horse has been walking in frozen mud or cold water. Bony tumors can develop on the pastern, from the hoof upward. This condition, called sidebone, can become painful and reduce the suppleness of the limb. It is most noticeable when the horse is walked downhill.

The ***fetlock*** is important to the smoothness of a horse's gait. Overshot fetlock is a wobbly condition due to a vitamin deficiency in young horses, and to fatigue in older ones. Windgalls, small lumps that develop at the back of the fetlock joint, will cause limping.

The ***cannon*** should be short and strong. It can be attacked by fusees, bony tumors that may be hardly visible at first but eventually lead to lameness.

The fragile ***knee*** joint should be broad, thick and vertical. External injuries or internal strains can cause the formation of osselets, or hard lumps, which blemish the joint and may ultimately immobilize it. Scars on the front of the knee detract from the value of the horse.

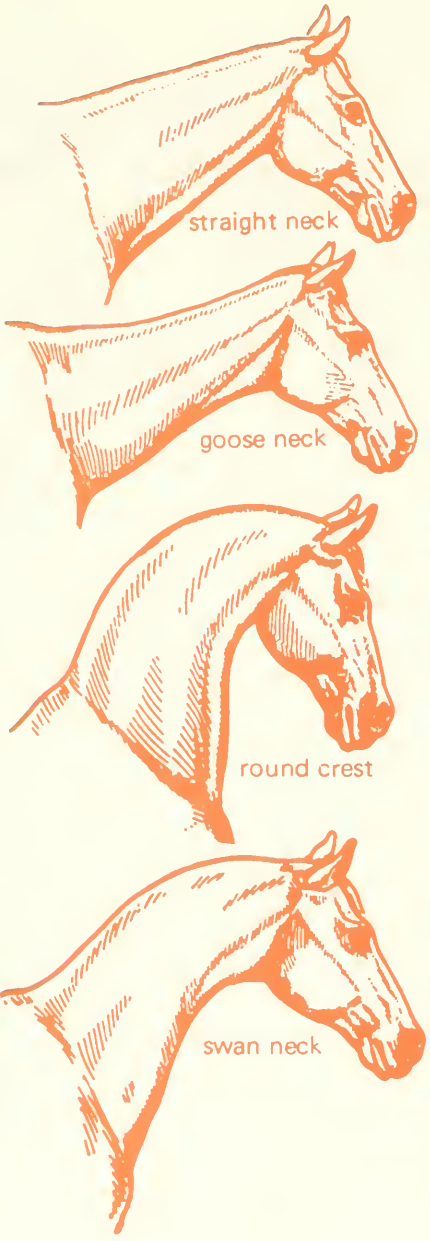
The ***forearm*** should be vertical, to give length to the stride.

The ***elbow*** is the joint at the top of the forearm. The capped elbow merges into the thorax. When a horse gets down on the ground with its legs curled under, the hoofs knock against the elbows and often cause soft spongy tumors. This can be avoided by applying a pad to the pastern.

A long, sloping, muscular ***shoulder*** provides the flexibility of movement that enables a horse to adapt its gait instantaneously to variations in the terrain. Severe falls can produce arthritis of the shoulder, a very serious infirmity in a horse.

The ***throat*** must not be constricted by the bridle or halter but both should be tight enough to keep them from slipping off the horse's head.

Horses' ***mouths*** vary greatly in sensitivity. The bridle bit should be wide enough to leave room for one finger on



either side of the horse's mouth. The cheek piece should be adjusted so that one or two wrinkles show at the corner of the mouth. Some horses will respond to the slightest pressure on the bit, others will require fairly rough handling of the reins. Occasionally, you will find one with no sensitivity in the mouth at all. Some horses have a habit of munching on the bit so that their mouths fill with foam. The bit can cause injuries at the corners of the lips, and an improperly used bit can even cut the tongue.

Lips should remain slack except when the horse is chewing. Sometimes the lower lip of an overworked, poorly fed horse droops. This is not only unattractive but the continual loss of saliva can also be detrimental to the animal's health.

On a saddle horse, the ***nostrils*** should be broad and well opened. Bleeding from the nostrils after strenuous exercise indicates something wrong with the circulatory system. Scars or ulcers on the mucous membrane could be due to a serious ailment.

If there are any scars on the ***muzzle,*** they could indicate a weakness of the forequarters and frequent falling.

Bumps or depressions on the ***forehead*** suggest that the horse is or has been seriously ill.

The ***eyes*** are protected from injury by their sockets, lids and lashes. Horses with skittish eyes may have poor eyesight. Although it takes a specialist to accurately determine the quality of the eyesight, a cursory examination can give some idea. Move a finger in front of the eye, or cover the eye with the palm for a few seconds and then expose it quickly to the light. This should cause the eye to blink and the pupil should dilate. So-called 'pig eyes,' that is, small and deep set, are indicative of poor eyesight and a weak sluggish animal. Large, bulging 'bull's eyes,' on the other hand, suggest a myopic condition.

The ***eye sockets*** are hollow at the top and their depth increases with age. Thus they provide a handy way of estimating this factor.

The ***ears*** are the best indicators of a horse's character; they stand straight when he is in good spirits and lie flat when he is in bad humor. Horses with a lot of hair in the ears are usually docile.

On a saddle horse, the ***neck*** should be clearly separate from the shoulders. A neck that is too long shows lack of

strength and detracts from the appearance; one that is too short indicates lack of flexibility; one too thick — a stiff forearm; and one too thin — the head is poorly supported. A horse with a neck like a stag will likely be difficult to manage.

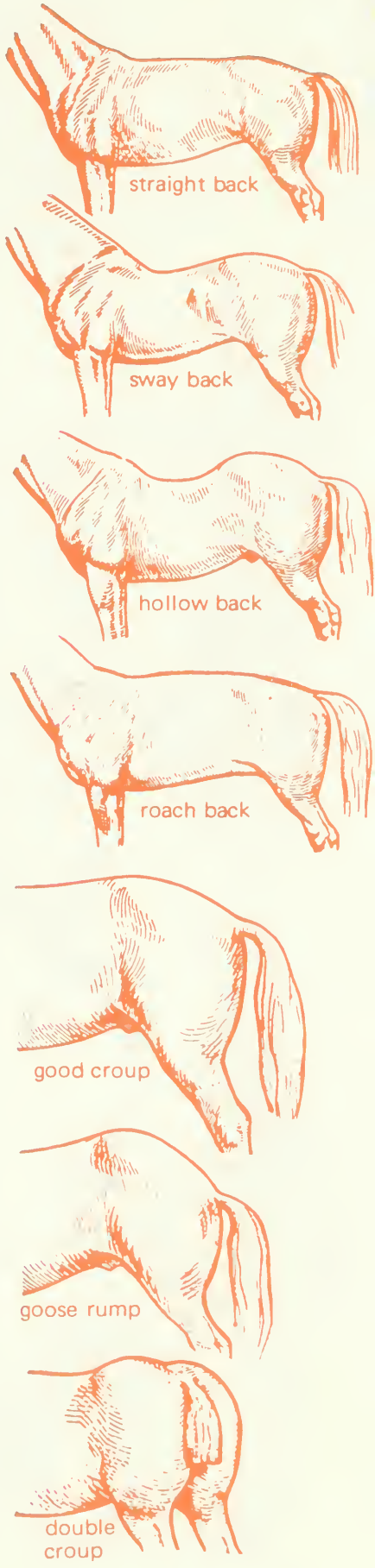
The ***mane,*** a ridge of long hairs along the nape of the horse's neck, provides your horse with something to brush away flies, and gives you something to hold onto when you ride bareback.

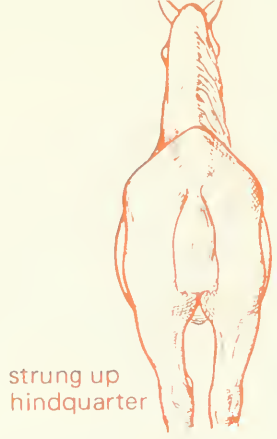
The ***withers,*** a very important part of the saddle horse, are situated just behind the shoulder, continuing the neck line. They should be prominent on a saddle horse. A poorly fitting saddle can cause severe ulceration in this area. The size of a horse is indicated by its height from the ground to the withers. When the withers are low and thick, the forearm movements are apt to be awkward. Also, the saddle will be hard to keep in place and injury to the withers can result. If the withers are prominent but do not extend back far enough, the pommel of the saddle will butt against them and cause injury. Do not treat injuries or defects on the withers lightly because they can lead to endless complications.

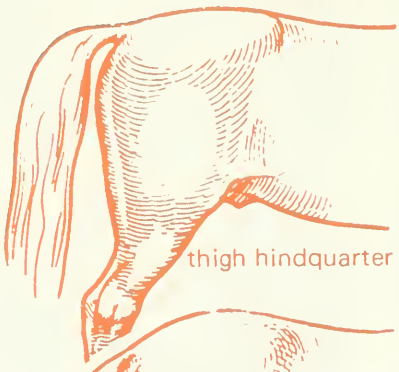
The ***back*** should slope gently from front to rear. This will enable the saddle to slide rearward, thus avoiding injury to the withers. A sway-backed horse is one with a concave back. Swayback is due to underdevelopment of the loin muscles, or it may be hereditary. A deep swayback slopes forward, causing the saddle to slide onto the shoulders and giving the rider a poor seat. Roachback, the opposite to swayback, results in a stiff stride.

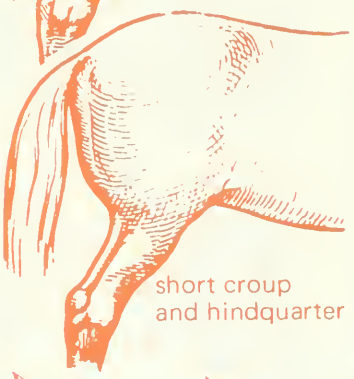
Prominent ***haunches*** may be injured when the horse lies down on a hard surface or passes too close to projecting objects. This is where a great many fractures occur, most of them not serious.

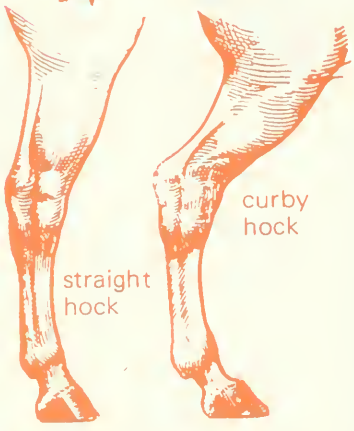
The ***rump*** of the saddle horse should be long, horizontal, fairly muscular and moderately wide. The animal's strength is proportional to the length of the rump, and its speed to the direction. A steeply inclined rump does not promote speed, but favors up and down motion, as in the gallop. 'Double rump,' where strongly developed buttock muscles are separated by a depression, which is characteristic of the Quarter Horse, is not desirable in a saddle horse. Such a horse is strong and has considerable speed for short distances, but lacks suppleness. A horizontal rump with a slope of less than 25° relative to the top line means less strength and resistance in the hindquarters. A











horse with a rump slope of more than 45° is a poor one to ride.

The *tail* is not simply for decorative purposes. The horse uses it to brush away flies. Often you will see two horses side by side swishing flies away from each other's heads. Never dock a horse's tail.

The *anus.* The Arabs advise us to mistrust a horse with a gaping anus, whose droppings are irregular in size.

In a fast horse, look for a *gaskin* that is broad, thick, fairly long and sloping.

The *hock* is the most important of the hindquarter joints, since it has to withstand the forces exerted by the numerous and powerful muscles of the hindquarters. It must be flat, clean-cut and long. Bone spavin, an inflammation appearing at the base of the hock, causes lameness; and bog spavin, a soft tumor on the outside of the hock, gives it a deformed profile.

The *cannon.* The longer the forearm the shorter the cannon must be if the horse is to be fast. The cannon should be straight, short, flat and moderately thick.

The *belly* behind the ribs should be round and well shaped, neither too bulky nor too flat. Its size depends on the size of the digestive organs, whose development, of course, depends on the animal's diet. A flabby or drooping belly is a sign of too much coarse roughage, especially dry forages or grass, and not enough exercise. This can usually be overcome by careful feeding on an oat base, and a gradual return to regular work. 'Greyhound' belly is a sign of poor digestion.

The *chest* should be long, wide and deep. A horse with a small chest is too easily winded.

The Set of the Legs — This has to do with the perpendicularity of the front and hindquarters. Have the horse stand on a level surface and inspect it from the front, side and rear.

Viewed from the side, the set of the *forequarters* is right if the perpendicular divides the forearm, knee and cannon into equal parts when passing through the center of the joints from the elbow to the heel. Look for the following faults:

☐ Slope to the rear: gives unfirm balance and increases the risk of falling; paces are too close to the ground and stride too short.

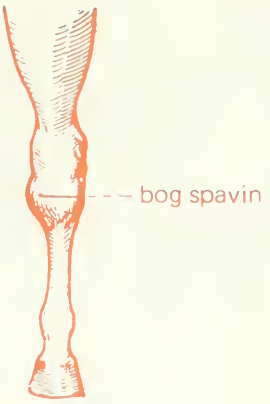
☐ Set forward: legs slope forward, putting too much

weight on hindquarters; sprained talons and pulled tendons may result.

☐ Bandy legs: knees are too far forward; increases risk of falling.

☐ Hollow knee: opposite condition to bandy legs; gives unfirm support; arthritis of the joints may result.

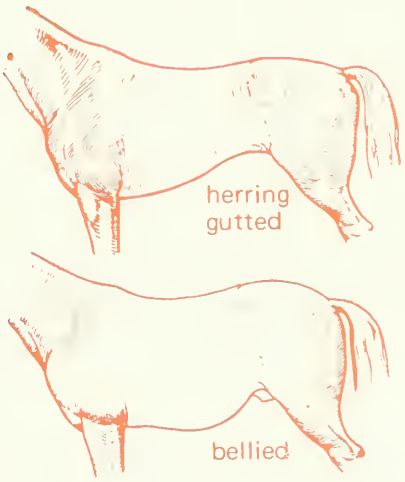
☐ Long pastern: forequarters are not firm; legs tire quickly.



Viewed from the front, the set is correct when the members are perpendicular from the forearm to the ground. Look for these faults:

☐ Open set: legs as a whole are turned forwards, elbows are separated from body and breast is wide; talon injuries and wounds from the sides of the shoes may result.

☐ Knock-kneed: knees come together without the feet being turned and tend to strike each other; chest is too narrow and muscles are flabby; horse has general instability.



☐ Cow-hocked: legs as a whole turned outward; chest is generally narrow and elbows are close to body; cuts from the calkins and quarters of the horseshoes may result.

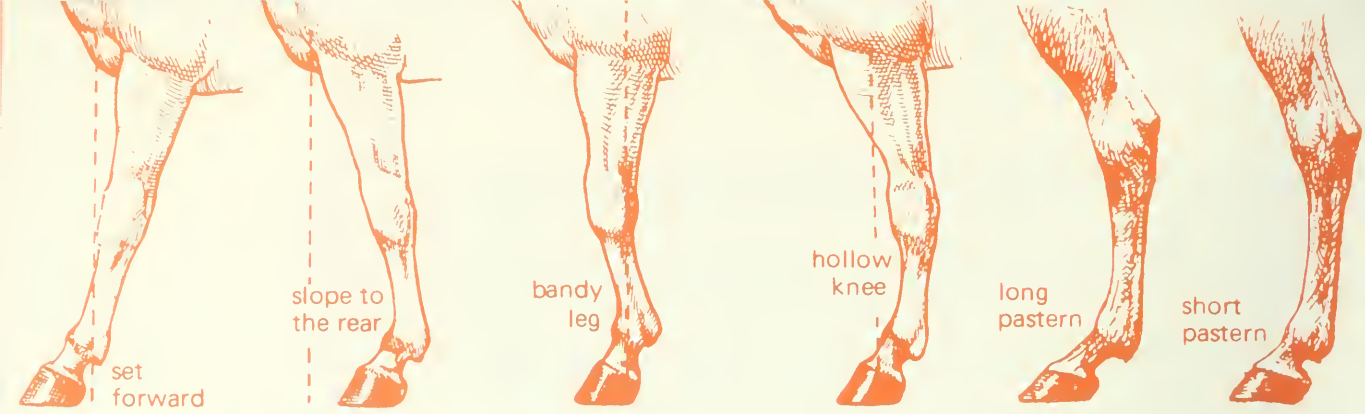
☐ Too open at the front: horse has powerful muscles and broad chest but paces will be slow.

Viewed from the side, the set of the ***hindquarters*** is correct when a perpendicular from the point of the buttock passes through the point of the hock, follows the back edge of the cannon and strikes the ground behind the foot.

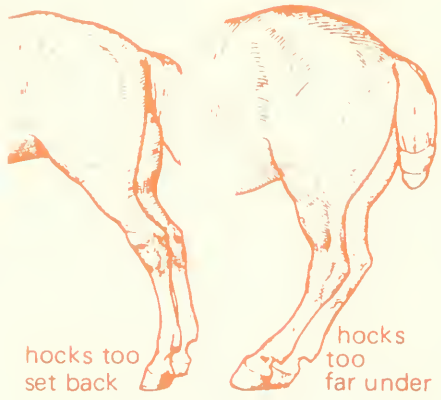
If the hind legs are situated ahead of the vertical from the point of the buttock, the horse will tire easily and have poor balance. It should be noted that a horse suffering severe pain in the forequarters will pull part of his hindquarters under him to ease his discomfort.

A horse is said to be more or less stretched in the rear quarters when the legs are behind the proper vertical line. This will affect his speed.

Viewed from the rear, the set is correct, if the perpendicular from the point of the buttock runs right through the center of the lower parts of the leg from the point of the hock, and leaves a space between the hoofs about equal to the width of the fetlock. If the line is inside these points, the horse is too open, often splay-footed (point of hoofs turned outward and inside of heels too close). Legs will lack firmness.



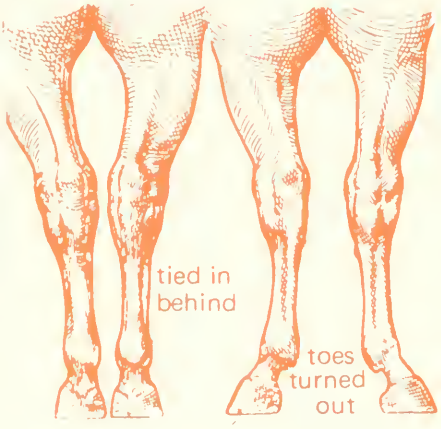
In the opposite condition, the legs are too close and the horse can hurt itself on the insides of the cannons and fetlock joints.



Other Considerations — Obviously, you can't be too careful when buying a horse. Look for a reputable dealer and, if possible, take someone along who knows the 'ropes', so to speak. If you want to make a real blunder, buy a horse at an auction, where you will have little time to look him over and will not be able to mount him.

Choose a gentle horse for a child or beginner. Nervous, temperamental or stubborn animals provide a lot of business for the hospitals! A novice rider should not be allowed to go near them.

The size of the animal should be matched to the prospective rider. A child or a beginner on a big horse will feel overwhelmed and have difficulty in learning the essentials.

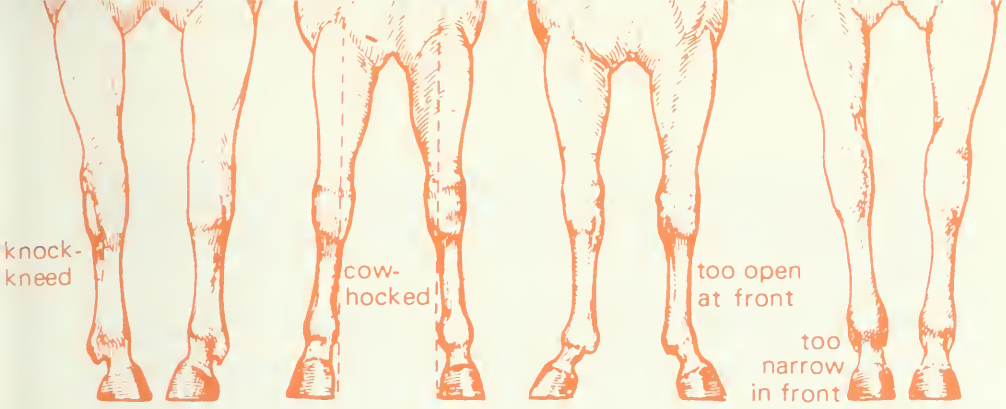


If you are looking for a show horse, build will be the prime consideration. Decide on the class you want to enter, then look for an animal that best meets the requirements. In any event, it costs just as much to keep a good horse as a worthless one, so the choice should be easy.

The paces of a horse are also important. Look for one with a flexible gait rather than a short, jerky stride. Observe the gait from the side, head on and from the back. Watch the hoofs carefully; if the rear ones touch the front, pass on to the next offering. If an animal has navicular disease, the lameness will show up best when he walks up an incline. Ringbone shows up best on a downhill walk. Corns are best perceived when the animal goes along the side of a slope.

An older, trustworthy steed is preferable to a young one, which is best left to an experienced horseman.

Before you finally make up your mind, decide whether you will be pasturing the horse or stabling him. A horse used to being pastured will have trouble adapting to the barn.



Take a good look at the incisors. If they are worn, you will know that the horse has beaver tendencies and will chew up your stable.

A final word of advice that may save you a lot of trouble: before closing the deal, why not have the horse looked over by a veterinarian? A spoiled horse is useless and will be hard to resell.

The size of a horse is measured in 'hands.' A hand is 4 inches, so that a horse of 15 hands will be 60 inches from ground to withers. A 62-inch horse will be 15-2 hands.

the equine clinic

One of the books reviewed during the preparation of this publication seemed to be of such great interest that the chapter on the signs of good health and signs of illness has been condensed for inclusion here.*

Every responsible, well-informed horse owner should be able to assess the condition of his animals and be capable of assisting the veterinarian by the careful administration of prescribed treatments. He should also be able to discern the first signs of illness in his animals, so as to call for professional aid as soon as possible. On the other hand, he must never forget that his knowledge is only a means of appreciation and detection and in no way replaces the art of the veterinarian.

Signs of Good Health — In a healthy animal, everything functions in a regular way.

The *posture* never appears strained, whether the animal is standing or reclining. The standing posture is the more common. In this position, the animal sleeps with its head leaning on the manger or some other convenient object. Each leg is rested in turn by lifting it off the ground and transferring the weight to the other three. A reclining horse will lie on either side and have its legs stretched out fully;

*Translation of extract from **Traité des maladies du cheval,** by A. Benion.

or, it may put the weight on one side of the chest and belly and lie with its head up and legs drawn inwards and bent.

The ***skin*** is supple, the ***hair*** smooth and oily.

The ***conjunctive*** (mucous membrane of the eye) is pinkish.

Appetite is robust and constant. As mealtime approaches, the horse neighs, paws the ground and tries to attract the attention of those who look after it. It attacks its food greedily and eats its entire ration without stopping.

Digestion is normal; droppings are well molded and healthy looking.

Respiration is slow and regular. When the horse is idle, the nostrils are barely open, flanks rise and fall constantly and smoothly. A colt breathes about 15 times a minute, an adult horse 9 or 10 times and an old horse only 9 times.

Circulation is determined by the regularity of the heartbeat, which may be felt by placing the hand flat over the left side of the chest inside the elbow, or by probing with the fingertips at a point where an artery comes to the surface; arterial pulsation corresponds exactly to the contractions of the heart. The average pulse rate of an adult horse is 30 to 40 beats a minute. In some animals, it may be considerably higher (50 to 70).

The pulse is so valuable a prognostication of disease that it is very important to know how to take it. There is nothing difficult about this; it merely requires a little practice and care. Generally speaking, it is taken from the artery along the edge of the maxilla (cheek) where the latter emerges from the hollow space beneath the jaw and enters the facial region. The thumb of the right hand is placed on the outside of the maxilla while the fingers curl around it. When pressure is now applied to the sharp edge of the maxilla, the artery will be felt as an elastic cord. Surges of blood through it will be clearly sensed.

Finally, the temperature is taken with the aid of a special thermometer, called an ***á maxima*** medical thermometer which every horse owner should possess. To obtain a reading, it is inserted in the rectum. The normal temperature is between 99°F and 101°F.

General Signs of Illness — Symptoms of illness may be either general, that is, common to all acute illnesses, or specific, which apply to diseases that follow a particular course. A horse owner should learn to recognize general symptoms.

These signs point to a vague but alarming situation that makes it necessary to call in a veterinarian and to give prompt medication. Though all the owner can do is take preventive measures, he must know how to determine the nature of the illness and make a general diagnosis. Acute illnesses affect mainly digestion and circulation, since the rest of the body depends on these functions. The least disorder will affect them profoundly and the morbidity immediately becomes evident in the deportment, appearance and general bearing of the animal. Let us consider the various deviations from the normal state, one by one.

The ***bearing*** of the animal is not natural. He keeps away from the manger, at the end of his tether, so to speak, and seems reluctant to move. He holds his head low, has a strained attitude and stands stolidly on all fours. He walks painfully, slowly, listlessly, sometimes unsteadily, and has a dull-eyed, dejected expression.

The ***skin*** is sticky, the ***hair*** dull and patchy looking. The ***loins,*** normally flexible, do not react to pinching. ***Backbone*** is rigid.

Appetite is often poor, the horse sometimes refusing food entirely. Thirst is always intense.

Digestion, accompanying the loss of appetite, functions poorly or not at all. The entrance to the digestive tract should be checked immediately to see if the rejection is due to some trouble with the teeth (wolf's tooth), tongue sores, obstructed saliva ducts or various other possible causes that should not be confused with the start of an acute illness. There may be diarrhea, or the droppings may be small, dry, too few and spotted with a whitish mucous.

Circulation is more rapid than usual; this is determined by taking the pulse.

Body temperature rises with faster circulation. These variations are greatest at the ends of the limbs and in the mouth and ears. The rectal temperature will sometimes go above 102°F and even 104°F (hyperthermia). Such an abnormal temperature is a sign of circulatory trouble and a general disorientation of the system. The visible mucous membranes of the eye, nose and mouth are inflamed and warm, because of the fever accompanying the disease. Sometimes, however, these membranes change from being red and warm to pale and cold. This drop in the external temperature as well as the internal one (below 98°F; hypothermia), together with pallor, always indi-

cates a serious lesion, requiring the attention of a veterinarian.

Thus there are two possibilities: a small artery, weak pulse, low temperature and pale mucous membranes on the one hand; a full, swollen artery, strong pulse, high temperature and inflamed mucous membranes on the other. With the first, while waiting for the veterinarian to arrive, energetic steps should be taken to restore circulation. Vigorous rubbing with handfuls of straw or stroking with rags soaked in warm vinegar or oil of turpentine, the application of mustard plasters, and the feeding of such aromatic plants as sage, wormwood, rosemary or camomile are all helpful and generally successful.

With the second, that is, with fever, the horse may be given warm, clear liquids, and should be covered with a blanket to prevent chills.

In a sick horse, ***respiration*** is also speeded up; the rise and fall of the flank are rapid, unsteady and of short duration. In certain respiratory diseases, the falling of the flank takes place in two distinct stages.

From the above, it is evident that a person can easily tell when his horses are in good health and can immediately recognize the first signs of trouble. After that, all he has to do is apply the proper first aid and explain his diagnosis to the veterinarian.

How to Take a Rectal Temperature — Before taking the temperature, always bring the mercury column down below 98°F mark by shaking the thermometer vigorously, or by grasping it firmly in the hand and swinging it back and forth. Now, wet the lower part or smear it lightly with vaseline, introduce it gently into the rectum through the anus and hold it there about 5 minutes. At the end of this time, withdraw it carefully. Since the column of mercury now indicates the maximum rectal temperature (whence the name *á maxima*) and is stationary, there is plenty of time to take the reading under the most favorable lighting conditions available.

Obviously, for safety's sake, one of the horse's feet, either front or hind, should be raised off the ground before beginning this procedure.

Diseases — Infectious, benign or virulent diseases caused by organisms that invade a horse's body from within or without undermine its health. Some animals have a natural resistance to such diseases but others have to be vaccinated to avoid infection.

Many disease-carrying organisms are ejected in the urine, in the pus from sores, in cough sputum and, with rabies, in the saliva. This is how the diseases propagate.

Here is a quick lesson in disease prevention:

☐ Avoid contact with sick animals.

☐ Disinfect buildings twice a year, and horse vehicles before every trip.

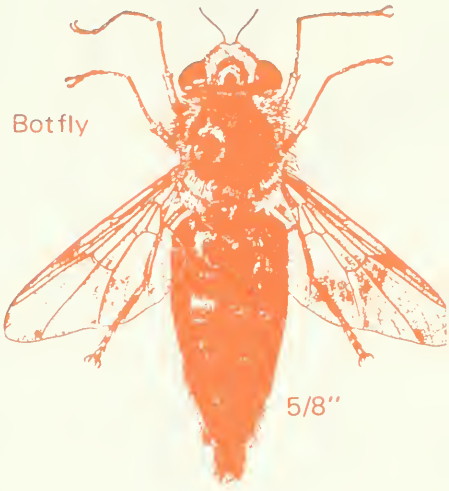
☐ Do not allow anyone to bring in disease germs from other animals on their shoes and clothing. Change clothing and shoes!

☐ Make the blacksmith sterilize his tools with a product that you supply.

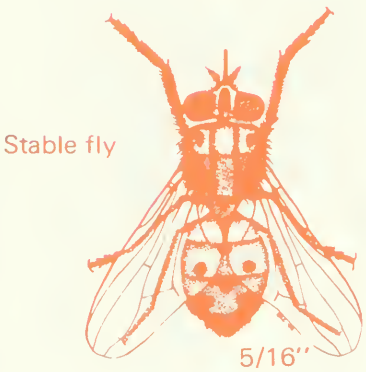
☐ Buy your grain in new sacks, and at fairs and exhibitions use your own manger and your own pails (filled at the tap).

☐ Feed the animal well; a tired, hungry, neglected one has low resistance and invites disease germs to take up residence.

☐ For injections use only disposable needles.



Probably the most important things for you to know in connection with horse diseases is the name and telephone number of a good veterinarian. Be sure to write down all the symptoms — temperature, appearance of the eyes, hair, which leg has the limp, condition of appetite and any other general signs of illness that will assist him in arriving at a diagnosis.



Parasites — Since infectious diseases are spread by parasites, you must get rid of these unwanted guests. To do this, you have to be able to identify them.

Let us start with the external parasites: flies, lice, mites (causing mange), ticks and fungi that cause ringworm. Note that mange and ringworm can attack the rider as well as the mount. Ordinary ***flies*** do not bite, but their buzzing about the eyes drives the poor beast to distraction. Horseflies and stable flies sting first and then suck the animal's blood. They are efficient carriers of such diseases as equine encephalomyelitis and infectious anemia. The bluebottle lays its eggs in wounds; the larvae then feed on the dead flesh and thus retard the healing process. Another type of larvae from flies eats live flesh. Neither of these will survive a good cleaning of the wound followed by the application of a suitable ointment recommended by the veterinarian.

The best defence against flies of all kinds is to remove the

Louse

Mite

Tick

manure every day from the stable and corral, store it in a well-closed shack and apply slaked lime to it frequently. Common flies lay their eggs in fresh manure in the pasture or the corral, horseflies and bluebottles in decomposing organic matter of the kind found in swamps and bogs, in grasses, near water or in old manure. Make sure, therefore, that you don't provide them with the means to a population explosion. Clean and disinfect!

Pesticides can also be used, but be careful. Above all, consult your agronomist to be sure that you purchase the right product and, *please read the label* before opening the package. Pesticides used by themselves are only a palliative. The daily cleaning is a lot more economical, a good deal more aesthetic and less dangerous.

Lice, being small, are hard to see, but a horse that has them will show bald patches and do a lot of scratching and biting at its skin. It will have an unkempt appearance. The adult lice lay their eggs at the base of the hair. These hatch in 11 to 20 days and are ready to lay, in turn, 11 to 12 days later. The best remedy is to feed the animal properly and keep the stable clean. Also, scrub any harness, saddle, brush or other equipment that has been used on other steeds before putting it on yours. Your local agronomist or veterinarian can recommend pesticides to combat lice.

Mange is caused by mites. It makes the horse nervous, causes him to scratch a lot and lose his hair. He may get a reddish skin with wrinkles. Scabs often appear. Each mite lays 10 to 25 eggs during the laying period, which lasts 12 to 15 days. The eggs hatch in 3 to 10 days and 10 to 12 days later the larvae have become adult mites, ready to lay again. To get rid of the mites, you will need to consult a veterinarian.

Ticks not only sting, but carry serious infectious diseases. They may pose serious problems. Small numbers can be removed by rubbing them with a cotton swab wound on the end of a stick and dipped in alcohol or chloroform. Since ticks breathe through their skin, this suffocates them. Consult your agronomist about their control in pastures; or the veterinarian if a horse has an excessive number on his body.

Ringworm, caused by microscopic fungi, causes the hair to fall out. Often the bare part is covered with a grey scab with short hairs coming up through it. A good soaping (no detergent, please) and painting with tincture of iodine will usually suffice. In more serious cases, call the vet-

erinarian. Remember that ringworm is easily passed on to humans, especially children. Keep them away during the treatment, and burn the scabs. Always work with rubber gloves.

Internal parasites, although not as evident, can cause a great deal of suffering and reduce the value of your animal. No treatment will be of any use unless you observe the following precautions:

☐ Don't put the hay on the floor where it may be in contact with manure containing insect eggs or larvae.

☐ Don't let the horse drink from puddles that may be contaminated by manure.

☐ Keep the stalls clean and don't use hay as litter.

☐ If the stable has an earthen floor, replace the top 6 inches every 6 months.

☐ Store the manure in a closed shack where it will heat up, killing insect eggs and larvae.

☐ Don't let grass grow in the corral.

☐ Don't leave the horse too long in one pasture.

☐ Discourage flies, birds and rodents that carry parasites from farm to farm.

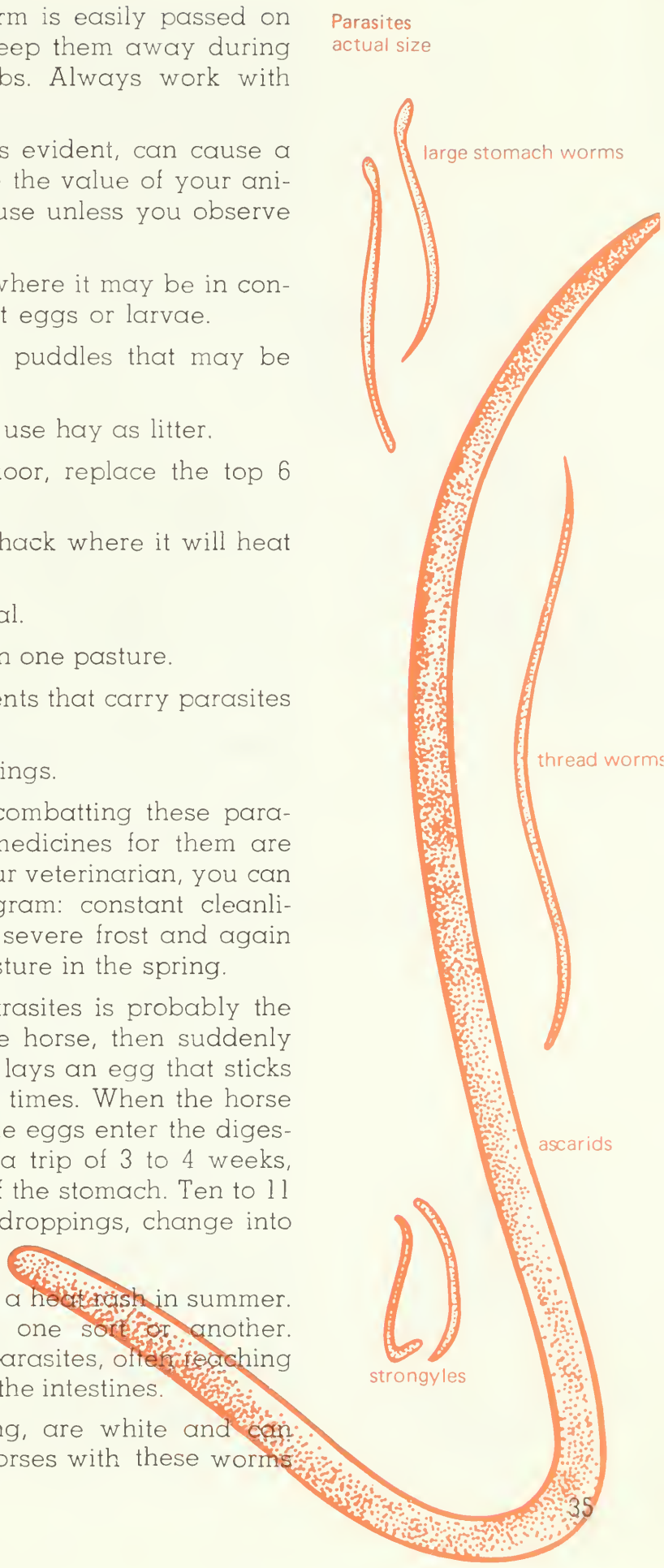
☐ Apply slaked lime to the droppings.

Once again, the best method of combatting these parasites is sanitation, since all the medicines for them are hazardous. In cooperation with your veterinarian, you can organize a good preventive program: constant cleanliness, and treatment after the first severe frost and again before putting the horse out to pasture in the spring.

The commonest of the internal parasites is probably the ***botfly.*** This insect flies around the horse, then suddenly dives onto the front legs, where it lays an egg that sticks to a hair. It repeats this about 500 times. When the horse scratches the spot with its teeth, the eggs enter the digestive system and the larvae, after a trip of 3 to 4 weeks, establish themselves on the wall of the stomach. Ten to 11 months later, they emerge in the droppings, change into flies and repeat the cycle.

Certain stomach ***worms*** will cause a heat rash in summer. All of them produce distress of one sort or another. ***Ascarids*** are the longest of these parasites, often reaching a length of 12 inches. They inhabit the intestines.

Thread worms, 2 to 3 inches long, are white and can often be seen in the droppings. Horses with these worms



are often seen rubbing their hindquarters against fences. This crushes the worms emerging from the anus. They can be seen if the tail is lifted. A horse with threadworms tends to be listless.

The most dangerous of the parasitic worms is the ***strongyle.*** It feeds on the blood, causing lameness and even death. Being very small, strongyles are difficult to detect.

Wounds — Besides being subject to many diseases and parasites, horses are also prone to injury. A footing missed because of a concealed stump, a rusty nail in a board or an old fragment of barbed wire in the grass, a broken bottle on the side of the road — these are some of the causes of injury.

The first thing to do about a cut is to prevent infection, but don't stop there. If the wound is severe, call the veterinarian at once. Most important, avoid using disinfectants that are too strong.

Tetanus is the infection to be feared most, especially if the injury happened on muddy or dusty ground, as it usually does. Only a veterinarian can give an antitetanus injection.

All injuries to joints require close attention. Lameness makes the horse avoid putting weight on the sore foot. First of all, you must determine which foot is affected, and this is not always easy. Obviously, the animal will be reluctant to bring the injured foot to the ground. If it is a front foot, he will raise his head when it touches the ground so as to reduce the shock, lowering the head again when he puts the sound foot down. He will do the opposite for a bad rear foot, lowering the head for the injured one and raising it for the good one. Sometimes this can be observed best by making the horse walk or trot towards you. However, on reading this paragraph again you will realize that you may easily mistake an injured hind foot for a front one, and vice versa. You will have to observe very carefully. Then feel the feet to see which one is warmest.

Any blow or shock that the horse has had can produce lameness. When it happens, rest the horse and rub the sore foot. Lameness can also be caused by a cut in the fold of the pastern, perhaps after catching a foot in a wire fence or injuring it in some other way. If the wound is slight, treat it with an antiseptic. If there is a running sore, an antiseptic footbath will be needed.

Strange as it may seem, lameness can be due to causes

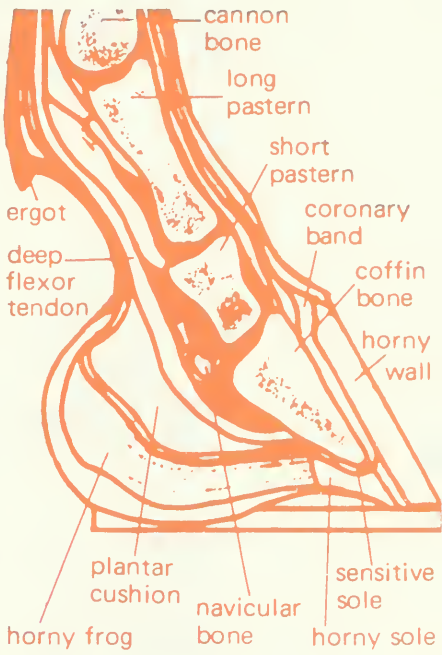
other than shocks or wounds. Too much grain, or drinking cold water when overheated from galloping, for example, will bring it on (laminitis). Usually only the front feet are affected, but it can strike the hindquarters too. If the condition does not improve after 3 days, call the veterinarian.

Some Useful Tips —

Normal pulse (1-year-old idle horse)	50-68 beats per m.
Normal pulse (adult idle horse)	36-57 beats per m.
Respiration (idle horse)	12-13 breaths per m.

Whenever possible, use medicines that can be mixed with the feed. Call the veterinarian:

- ☐ If the temperature goes above 103°F.
- ☐ If there are severe spasms.
- ☐ If there are deep wounds.
- ☐ If there is marked limping that does not respond to first aid treatment.
- ☐ If the horse has trouble eating the grain.
- ☐ For all stubborn skin conditions.
- ☐ If there is a yellow discharge from the nostrils.
- ☐ If you cannot diagnose some trouble.
- ☐ If the animal has severe diarrhea, a bad cough, a runny nose, or if it loses weight.
- ☐ If the temperature rises a few days after a deep wound.

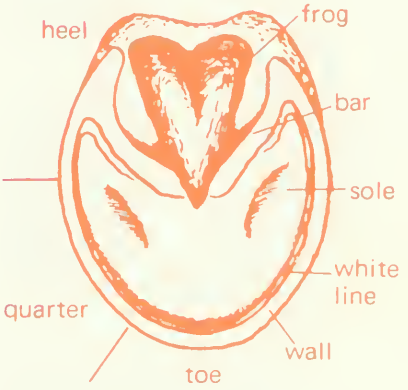


all about hoofs

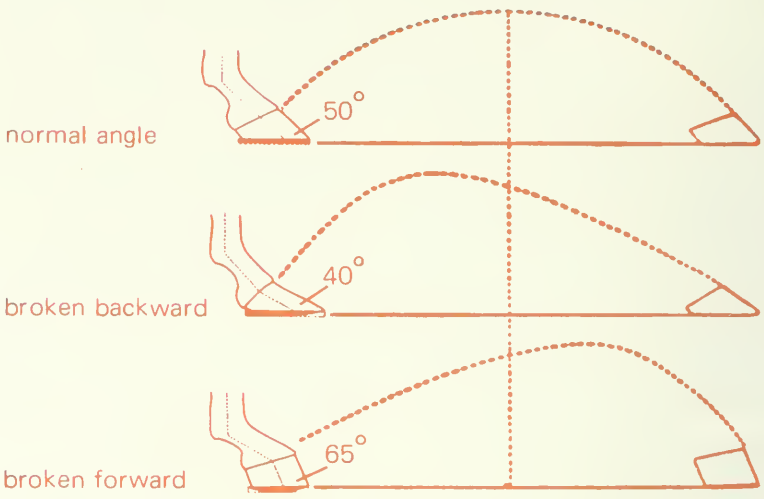
The hoof, in one sense, is the strongest part of the horse; in another, the weakest. It is adapted to running and is susceptible to anything you might do to it other than restore its natural shape. Horseshoes, pesky things at best, are only necessary if the horse is being ridden regularly on hard or rocky ground. Often it is better not to have them, but then you must use common sense. Never ride an unshod horse for any great distance on hard ground (3 miles at the very most).

If you do have your horse shod, see that the shoes are adjusted every 6 to 8 weeks. ***Never, never*** let a shoe go until it falls off by itself.

Dr. John Spark of the University of Arizona has designed a new type of horseshoe which, far from being a necessary evil, will help reduce laminitis, navicular disease and other foot ailments. In all probability, this shoe will



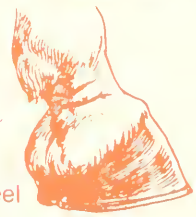
path of the foot in flight



ringed foot

low heeled

high heeled



cracked heel

hoof bind

Illustrations from Larousse

completely replace traditional horseshoes in time, but at the moment it is very expensive.

It is useful to know the names of the different parts of the hoof and the bottom of the foot, as shown on page 37. You will then be in a better position to assess the advice you are going to get from every quarter. You should know, too, that the wall grows ½ inch a month, that the sole and the frog wear down, and that the latter acts as a lift-and-force pump, sending blood to all parts of the foot each time it is put on the ground.

Before you attempt to work on your horse's hoofs yourself, you should watch a competent farrier do the job several times. The following hints may help you to understand better what he is doing.

First and foremost, check the slope of the pastern.

The dotted lines in the diagrams above, indicate movement of the hoof through the air at the walking pace. Now, if you observe any of these configurations of the walk, you know that the hoof has to be trimmed. Consult and observe farriers, read books and, if necessary, take a course. Only then will you be able to deal competently with hoofs.

Every day each hoof should be cleaned with a hoof pick. This will keep pebbles from getting permanently lodged in the lateral clefts of the frog, and at the same time will give you an opportunity to observe anything unusual.

Note first of all that the hoof should appear more or less circular from above, that the sole should be concave, the frog thick and the horn slightly moist. Scrub the hoofs

frequently with a sponge or a hard-bristled brush. Once a week rub fat on the sole, the frog, the wall and the coronet.

A standing horse puts a weight of about 10 pounds per square inch on the hoof, but this load is greatly increased when he trots or gallops (a man, by contrast, carries only about 3 pounds per square inch). Thus any injury to the hoof will hurt badly. If the horse is shod, the first thing to do is to remove the shoe.

In the event of a stab wound in the sole or frog, for example, from a nail, remove the object, disinfect the opening and dress the wound until healed; also, get an antitetanus injection for the horse.

If the frog has a bad odor and there is a blackish discharge from it, your horse has ***thrush*** and you must first disinfect the stable and the corral, then the sore, and possibly put a boot over the ailing foot until it heals. It would be wise to consult a veterinarian.

A hoof can be ***bruised*** from a blow of some kind. The internal injury, rarely visible, can be treated with warm baths.

More serious are ***corns,*** which appear at the bottom of the heels or on the quarters when the horn is dry. A good farrier or veterinarian can remove them.

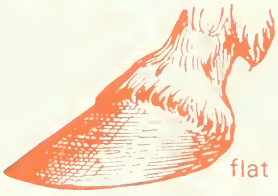
Sand cracks, at the toe or on the quarter, are due to extreme dryness of the walls. This happens when the horse has been in the wet for a long time, followed by a long dry period. When these appear, the farrier will have to be called in; however, it is best to prevent the condition by frequent oiling of the hoofs during wet periods, to prevent the moisture from penetrating too deeply, then washing the foot in the subsequent dry period, followed by another oiling to retain the water.

Hoof bind is a constriction of the hoof. Often it is the result of a horse being confined to the stable without sufficient exercise. Only a veterinarian or daily exercise can cure it.

Horned ringbone is an extension of the hoof wall above the coronet. It is due mostly to a short, stubby upper pastern joint, which puts too much strain on the lower joint. Ringbone makes the joint stiff. This is a case for the veterinarian.

Greasy heel is a stubborn disease of the frog that does not produce lameness in the early stages, and, therefore, may go unnoticed. One good reason for cleaning the hoofs every day is to catch the disease at the start. A very bad odor is the warning sign. Once again, a dirty stable


good foot


flat foot


foundered foot (ringed)


horned ringbone

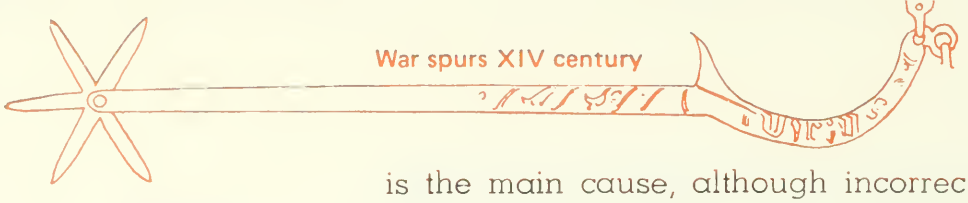

sand crack (quarter)


sand crack (toe)


corn


greasy heel

Illustrations from Larousse


War spurs XIV century

is the main cause, although incorrect feeding may also be involved.

Navicular disease is most common in saddle horses with high or contracted heels. The shoulder is cold and the animal appears as if walking on eggs. Do not ride your horse on hard surfaces, and if you must, be sure to only lead the horse. Call a veterinarian.

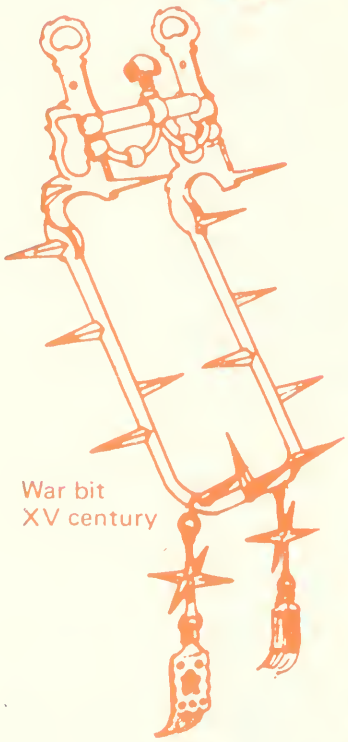
maintenance of the harness


XIV century saddle

After picking out your saddle and paying for it, whether it is intended only for a weekly ride or to practice the fine art of manège, you will have a large dent in your bank account! If you want your equipment to last, give it proper care after every riding session.

After your horse has been watered, groomed and stabled, your next chore is to clean the saddle. This takes 10 to 15 minutes, but the effort will be well repaid in preserving the suppleness of the leather for many years. All you need are a pail of warm water, a sponge and a cake of saddle soap.

Begin by wetting the sponge and wringing it as dry as possible, then rub it over the soap until saturated with lather. Redip the sponge in the water only when it has to be rewet or if the lather disappears. Soap the saddle with a circular motion, allowing the sponge to soak up dirt and sweat. The pores of the leather will fill with saddle soap. Follow the same procedure for the inside of the saddle and the various leather straps, taking special care


War bit
XV century

with the parts in contact with metal; for example, the girth and stirrup leathers. Do likewise with the bridle; and at the same time rinse off and dry the bit. If the bit is not to be used for a time, coat it with vaseline to keep from rusting. However, don't forget to wipe it off before putting it in the horse's mouth again.

horsemanship

Horsemanship is the art of making a horse do what you want him to do as if he were willing it himself. This takes a well-endowed animal, but it also takes a rider with a feel for the horse. Above all, you need a good teacher. If you do not take lessons, you will probably never enjoy the sport of riding as much as one who has learned it properly. No one is a true horseman until he knows how to communicate with the horse in a way the latter understands.

safety precautions

Careful attention to simple safety rules in handling horses prevents serious mishaps. You must know safe riding when you are training riders. Here are basic rules of safety you need to stress constantly so that members will develop the habit of practicing safety at all times.

☐ Never approach a horse directly from the rear. Even

Horsemanship is the art of making the horse do what you want him to do.

in single stalls it is possible to approach from an oblique angle at the rear.

☐ Always speak to a horse before approaching or touching him. Most horses are likely to jump and may kick when startled.

☐ If the horse hangs back on the end of the rope, lead him a few steps forward before touching him with your hand.

☐ Keep your head in the clear when bridling the horse. He may throw his head or strike to avoid the bridle. Avoid bridling a nervous animal in close quarters.

☐ Walk beside the horse when leading, and on the left side; not ahead or behind him. Always turn the horse to the right, and walk around him.

☐ Use a long lead shank when leading. If the horse rears up, the folded lead shank will unfold so you can stay on the ground.

☐ The horse is stronger than you, so don't try to outpull him. He will usually respond to a quick snap on the lead strap or rope.

☐ Never wrap lead strap, halter shank or reins around your hand, wrist or body.

☐ Keep bridle reins, stirrup leathers and cinch straps in the best possible condition, as your safety depends on these straps. Replace any strap when it begins to show signs of wear.

☐ Stand with your feet well back in the clear and reach forward when saddling the mount.

☐ Never mount the horse in a small barn, near fences, trees or overhanging projections. Riders, who failed to take these precautions, have been injured by sidestepping mounts.

☐ Adjust the saddle carefully and the cinch tight enough so it will not turn when you mount. Lead the horse a few steps before mounting.

☐ Soon after starting the ride, dismount and again tighten the saddle girth. Horses often get excited when first saddled, and failure to tighten girths later can result in serious accidents.

☐ If your horse is frightened by an obstacle, sit quietly and wait for him to settle down.

☐ Keep your horse under control and maintain a secure seat at all times. Horses are easily frightened by unusual

objects and noises. Anticipate these and steady your horse.

☐ When a horse is frightened and attempts to run, turn him in a circle and tighten the circle until he stops.

☐ When riding in groups, stay at least half a horse length behind the horse in front of you and be alert for overhead tree branches.

☐ Hold your mount to a walk when going up or down hills.

☐ Reduce speed when riding rough ground or in sand, mud, ice or snow, when there is danger of the mount's falling or slipping.

☐ Avoid paved roads. Slow your mount to a walk when crossing such roads. If he is a spirited or young horse, dismount and lead him across.

☐ Know your horse, his temperament and reactions. Control your temper at all times, but let him know that you are his firm and kind master.

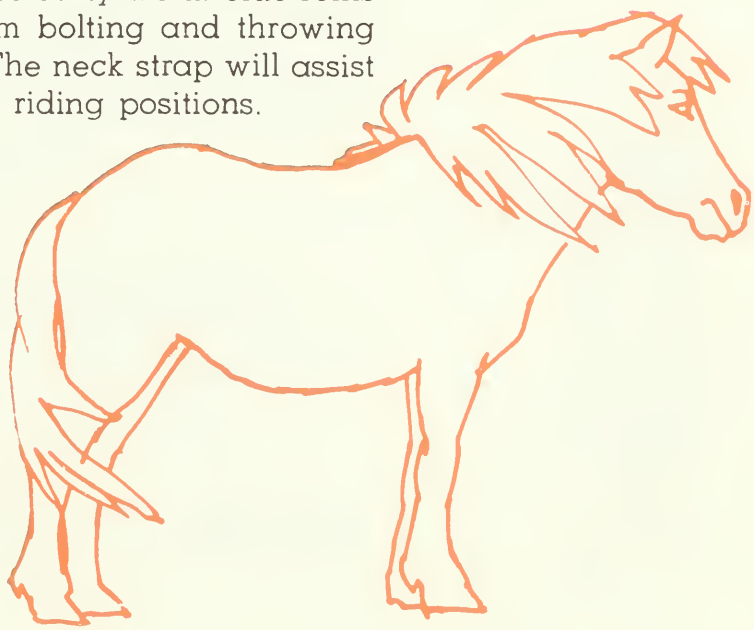
☐ Ask permission when leading through a group of people.

☐ On long rides, dismount and lead for 5 minutes each hour.

☐ Novice riders should consider wearing protective head gear. Construction helmets or crash helmets are satisfactory, but they should have the peak removed for greater safety in a fall.

☐ It is suggested that you have side reins and a neck strap on your horse during all your early work. Side reins will help prevent your horse from bolting and throwing you off balance or off the horse. The neck strap will assist you to learn balance and correct riding positions.

Ask your local government to have these signs installed along your riding trails at cross roads and highways so that you don't become a vital statistic.



a few tips

Keep a box of cinders or sand handy to spread in the corral when it is slippery.

Don't give grain to a heated horse.

Don't make your horse work right after a meal.

Let him graze as often as you can.

Don't overfeed your horse. If he leaves the manger before it is empty, or if he drags food on the ground, you are giving him too much.

The litter must not be dusty. Wood shavings are better than sawdust and straw is also good.

Give manure to gardening enthusiasts.

If your horse has an attack of colic, walk him 3 miles or ¾ to 1 hour.

To keep your horse from getting too frisky on his first outing after the long winter, cut down his grain ration by a third.

acknowledgements

To *La Maison rustique* (26, rue Jacob, Paris VI, France) for permission to reproduce parts of ***Traité des maladies du cheval,*** by A. Benion, which is out of print.

To *La libraire Hachette* for permission to reproduce many illustrations (among the finest) from their publication ***Le cheval,*** by E. C. Fraisse, also, unfortunately, out of print.

To *La libraire Larousse* for permission to reproduce their very fine illustrations.

referrals

For further information on horses, the reader is referred to:

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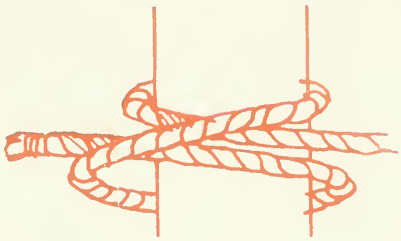
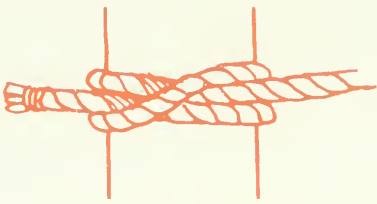
How to Buy A Healthy Horse And Keep Him That Way — Dan W. Scheid. 243 pp. The Highsmith Co., Fort Atkinson, Wis. Revised 1968.

A few useful knots



the clove hitch



granny knot

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N.B. Department of Agriculture & Rural Development,
Fredericton, N.B.

Service de l'information,
Ministère de l'Agriculture et de la Colonisation,
Québec, P.Q.

Information Branch,
Department of Agriculture and Food,
Parliament Bldgs.,
Toronto, Ont.

square knot

Economics and Publications Branch,
Manitoba Department of Agriculture,
Winnipeg, Man.

Agricultural Extension Branch,
Sask. Department of Agriculture,
Regina, Sask.

Extension Division,
University of Saskatchewan,
Saskatoon, Sask.

Extension and Colleges Division,
Alta. Department of Agriculture,
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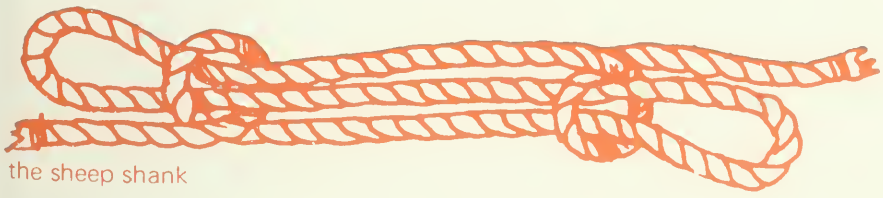
the bowline



the sheep shank